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Forest Service

Pacific
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Region

R5-BOT-TP-001

1994

Sensitive Plant Handbook

Mendocino National Forest

Lewisia stebbinsii Gankin & Hildreth

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Sensitive Plant Handbook

Mendocino National Forest

R5-BOT-TP-001

USDA, Forest Service, Pacific Southwest Region
Mendocino National Forest
420 East Laurel Street
Willows, CA 95988

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Introduction

This manual was developed to assist the Forest Service and other field personnel to identify the Sensitive plant species that grow on the Mendocino National Forest. Photographs, line drawings, and written descriptions are included for the Sensitive plants. Habitat descriptions, associated plant species, and discussion of look-alike species are also given. General map locations that show the townships of the four Ranger Districts indicate known Sensitive plant populations.

Sensitive plants are recognized by the Regional Forester to warrant special management consideration to ensure maintenance of viable populations. They include all federally listed species and may include plants listed by state law as endangered, threatened, or rare. All sensitive plant locations are managed according to the policy direction of the Forest Service Manual (2670) and the Forest Service Handbook (2609.25) on threatened and endangered plants. In planning and implementing resource projects, known locations of sensitive plants are avoided or effects are mitigated. If a new sensitive plant location is encountered, it receives similar protection.

The Mendocino National Forest is geographically situated in an area that has been recognized for its floristic diversity (Raven and Axelrod, 1978). The reason for this diversity is often correlated with the wide variety of habitats occurring in this area. Specifically, great variation in geology and topography have been considered to be important controlling factors in the development of plant species diversity.

Rare plants included in this report are those species recognized as Forest Sensitive species as well as those recognized in the literature as having restricted geographic ranges or small population sizes. Information on known and potential rare plants in the study areas was obtained from a background literature search and information provided by the Mendocino National Forest. Two important general literature sources included the California Department of Fish and Game Natural Diversity Data Base and the California Native Plant Society's (CNPS) Inventory on Rare and Endangered Plants fifth edition (Skinner and Pavlik, 1994). In addition, regional reports on rare plants and specific rare plant studies were consulted.

For additional information on the Mendocino National Forest Sensitive plant program contact David Isle or Colleen Pelles at the Mendocino National Forest Supervisor's office at (916) 934-3316 or the Region Botanist James R. Shevock at (415) 705-2691.

The California Natural Diversity Data Base's botanist Roxanne Bittman can be reached at (916) 323-8970. The California Native Plant Society's botanist Mark Skinner can be reached at (916) 324-3816.

Acknowledgments

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Sensitive Plant Species on the Mendocino National Forest

Scientific Name	Common Name
Antirrhinum subcordatum	dimorphic snapdragon
Astragalus clevelandii	Cleveland's milkvetch
Brodiea coronaria ssp. *rosea*	Indian Valley brodiaea
Epilobium nivium	Snow Mountain willowherb
Eriastrum brandegeae	Brandegee's eriastrum
Eriogonum kelloggii	Kellogg's buckwheat
Eriogonum nervulosum	Snow Mountain buckwheat
Fritillaria pluriflora	adobe lily
Hesperolinon adenophyllum	glandular dwarf flax
Hesperolinon drymarioides	drymaria-like dwarf flax
Hesperolinon tehamense	Tehama County western flax
Howellia aquatilis	water howellia
Lewisia stebbinsii	Stebbins' lewisia
Lupinus antoninus	Anthony Peak lupine
Madia stebbinsii	Stebbins' madia
Raillardiopsis scabrida	scabrid raillardella
Silene campanulata ssp. *campanulata*	Red Mountain catchfly
Streptanthus morrisonii ssp. *kruckebergii*	Morrison's jewelflower

Antirrhinum subcordatum Gray — dimorphic snapdragon

Family Scrophulariaceae

CNPS list: 1B State/Fed. status: none/C3c

Description
Antirrhinum subcordatum is an annual herb 15-80 cm tall. The lower stem is soft-hairy, while the flowering stem is glandular-hairy and 1 to few branched, with secondary twining branchlets that often wrap around the nearby plants. The leaves are ovate and crowded, with petioles 0-3 mm, somewhat heart-shaped, 1-4.5 cm long, 3-several veined. The unbranched inflorescence has numerous leaves arranged on one side of the axis, with short pedicels. The calyx is sparsely glandular and long-haired, the ovate upper segment 10-20 mm long, the linear, lance-shaped lateral segments 6-10 mm long. The corolla is yellowish-white, 16-18 mm long, glandular-hairy on the outside, the basal pouch 1-2 mm deep, the lips 6-7 mm long. The fruit capsule is 6-7 mm long, and contains ovoid seeds ca. 1 mm long with a netlike-honeycombed covering.

Similar Species
The most similar *Antirrhinum* species occurring in the area are *A. vexillo-calyculatum* and *A. breweri*. These species also have unusual, twining branchlets, but both have smaller (12-14 mm and 10-12 mm, respectively) lavender-violet or blue flowers and the upper calyx is less enlarged. *A. virga* is glabrous and has red-purple flowers.

Survey Time
Flowering April to July.

Habitat
Occurs in serpentine chaparral openings on Henneke soil slopes and roadcuts, on fine talus or shot texture decomposed mudstone sandstone, primarily on south and west facing slopes. Occasionally clings to wild oat stems with its secondary, twisting branchlets. Grows with slender wild oat (*Avena barbata*), gilia (*Gilia capitata*), lotus (*Lotus humistratus*), chick lupine (*Lupinus microcarpus* var. *densiflorus*) and stephanomeria (*Stephanomeria virgata*).

Threats
Roadside widening projects, loss of habitat.

Land Ownership
U.S. Forest Service and private.

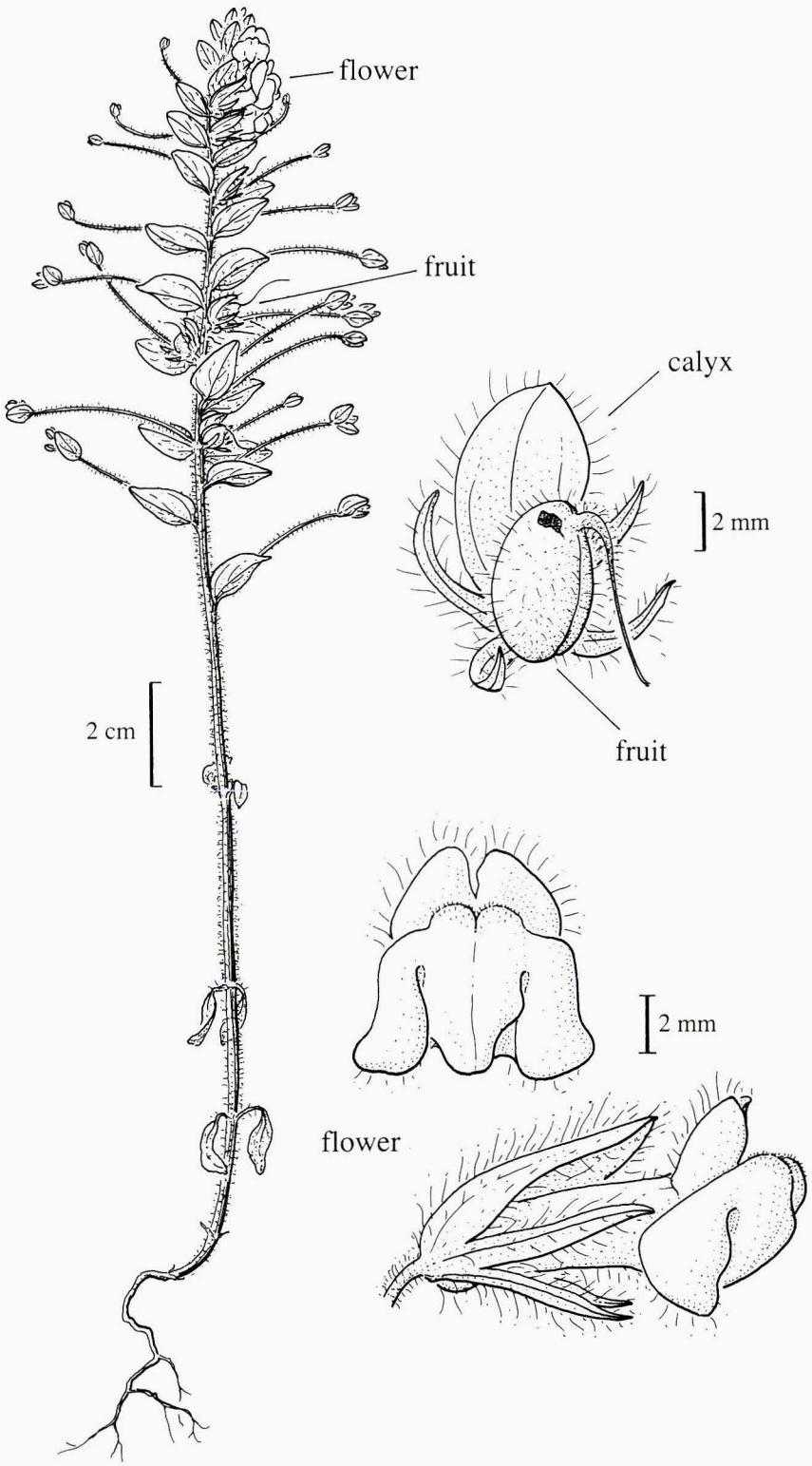
Distribution
Known from the inner north coast ranges in Colusa, Glenn, Lake and Tehama counties at an elevation of 800-2,200 feet.

Known Localities

Corning Ranger District	Salt Creek and Salt Creek Saddle areas
Stonyford Ranger District	Wolf Glade, Little Stony Creek, Black Diamond Glades and North Fork of Stony Creek areas

There are many populations just east of the Forest boundary above Beehive Flat in Tehama County to Stonyford in Colusa County.

For Additional Information
CDFG Status Report - 1978, MNF Status Report, 1978
Jepson Manual p. 1015 and p. 1019.



***Antirrhinum subcordatum* A. Gray**

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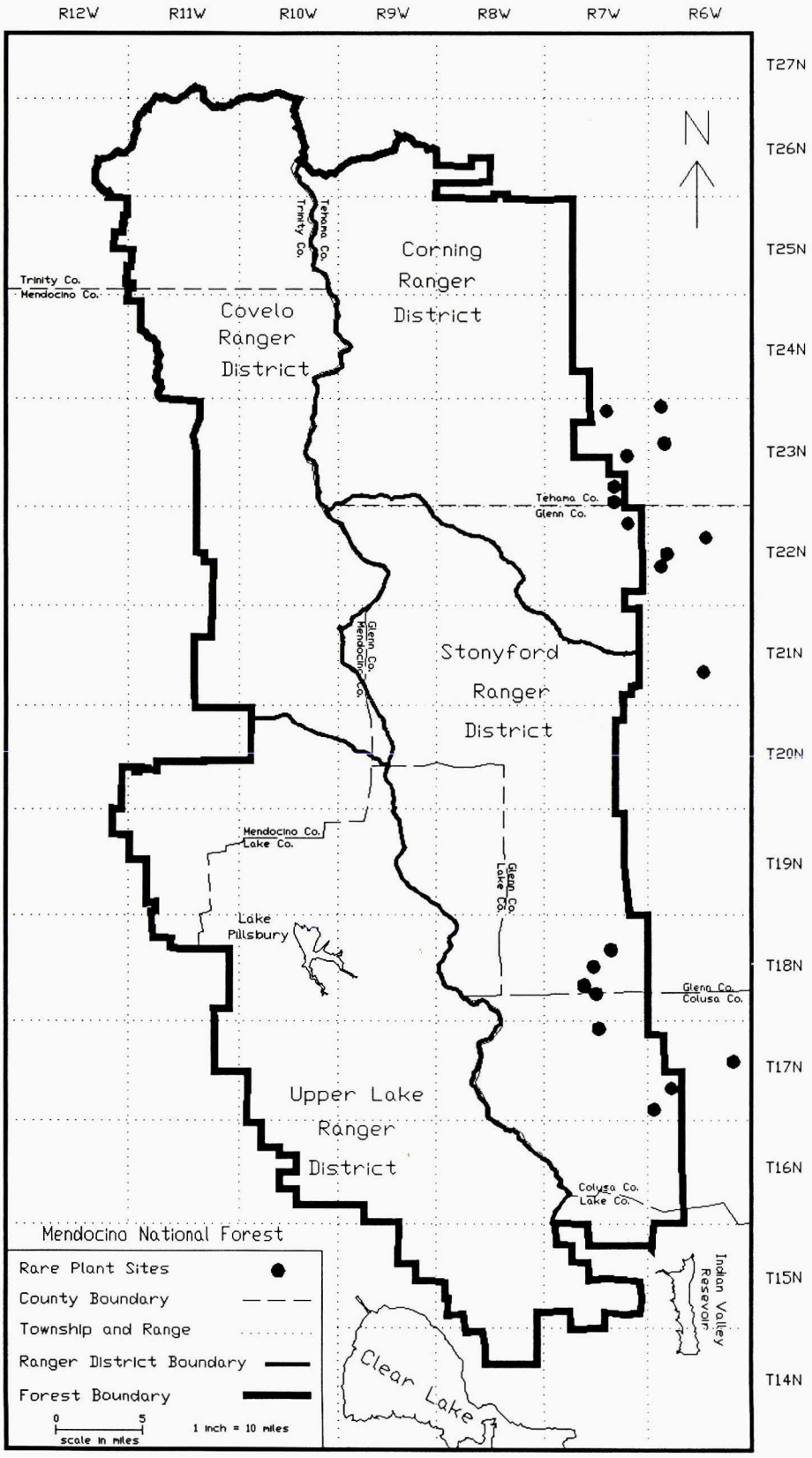
Antirrhinum subcordatum- photograph showing the branching pattern and flowering stem.

Antirrhinum subcordatum- Close-up photograph of flowers at the base of leaf-like bracts.

Locations of Antirrhinum subcordatum



Astragalus clevelandii Greene — Cleveland's milkvetch

Family Fabaceae

CNPS list: 4 State/Fed. status: none/none

Description
Astragalus clevelandii is a **tall perennial forming from a taproot**, 30-100 cm tall, appearing hairless, but the leaves thinly covered with stiff appressed hairs beneath; stipules free; The leaves are 2-14 cm long, pinnately compound, consisting of 13-27 leaflets 3-23 mm long. The spike-like, 5-15 cm long flowering stems arise from the upper leaf axils, and contain 20-100 reflexed flowers. The calyx tube is bell-shaped, ca. 2 mm, with teeth ca. 2 mm long. The **petals are white**, the upper petal 5-6 mm long, the lower fused petals ca. 4 mm long. The fruit pod is reflexed, 4-7 mm long, ca. 2 mm wide, incurved, half-ovoid in side view, 3-sided, stiffly papery, hairless.

Similar Species
None.

Survey Time
Flowering June to September.

Habitat
Occurs in **serpentine seeps** and on sandy banks of streams, chiefly on serpentine soils. Associated species include viscid manzanita (*Arctostaphylos viscida*), leather oak (*Quercus durata*), western azalea (*Rhodeodendron occidentale*), willow (*Salix* sp.), and California bay (*Umbellularia californica*).

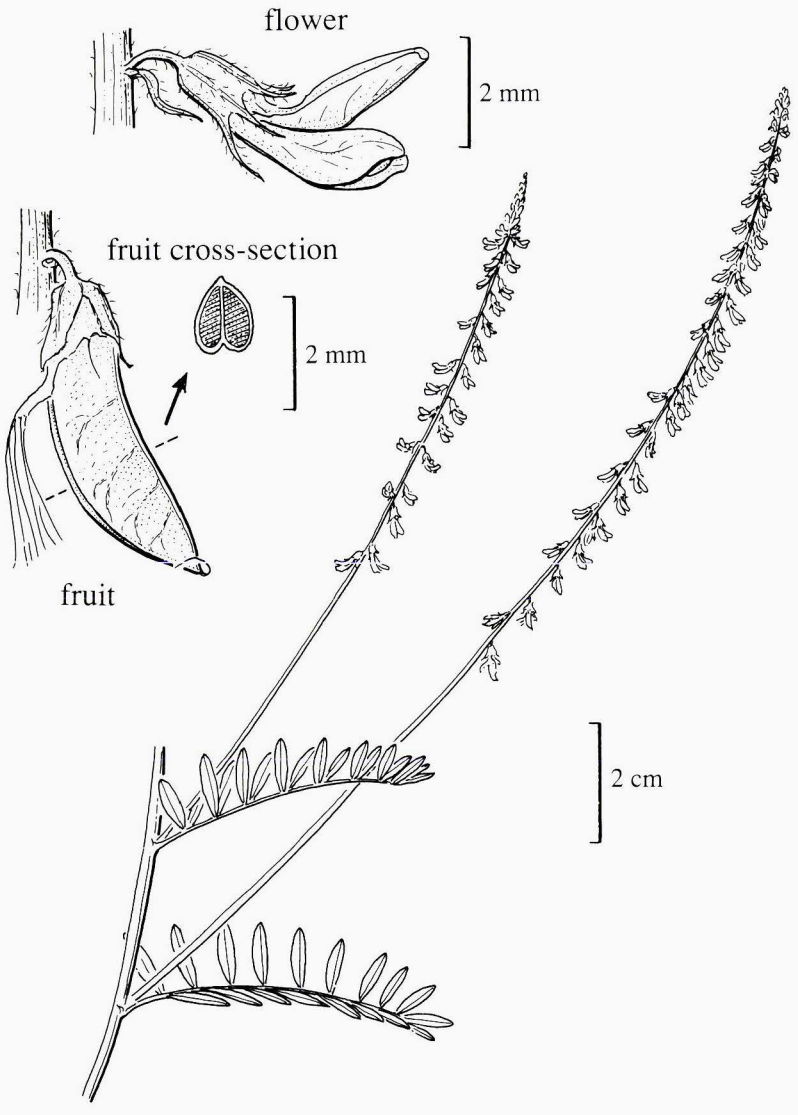
Threats
Unknown.

Land Ownership
U.S. Forest Service and private.

Distribution
It is found in Colusa, Lake, Napa, San Benito, and Yolo counties.

Known Localities
Upper Lake Ranger District — Rice Creek area
Stonyford Ranger District — Frenzel Creek Research Natural Area

For Additional Information
Jepson manual p. 592 and p. 595.
McCarten and Rogers 1991.



***Astragalus clevelandii* E. Greene**

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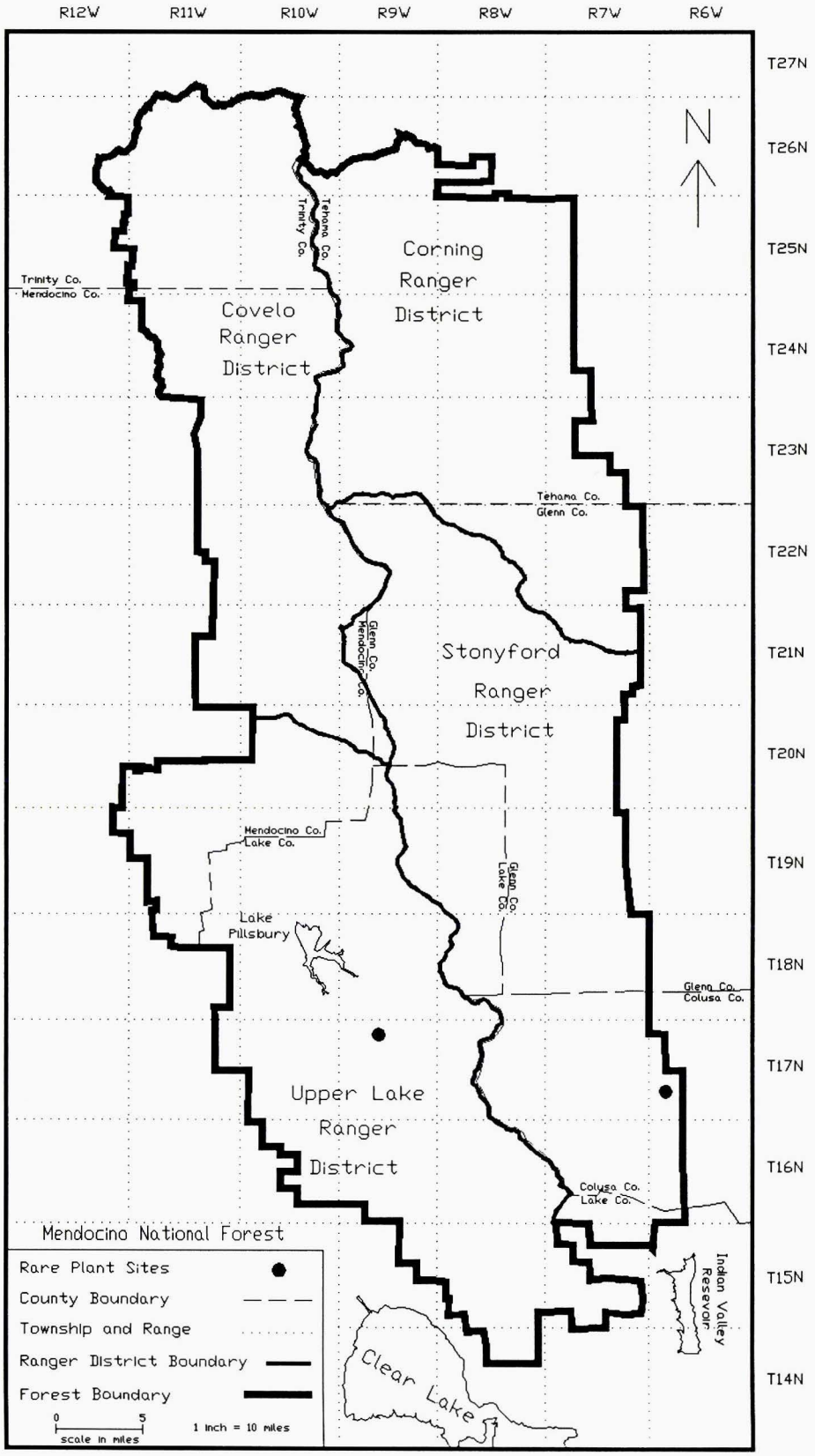
Astragalus clevelandii- Photograph of flowering stem.

Locations of Astragalus clevelandii



Brodiaea coronaria (Salisb.) Engler ssp. rosea (Greene) Niehaus Indian Valley brodiaea

Family Liliaceae

CNPS list: 1B State/Fed. status: endangered/C2

Description
Brodiaea coronaria ssp. *rosea* is a perennial herb having short-lived linear basal leaves 5-15 cm tall, arising from a perennial corm. The few flower stalks are leafless, 2-10 cm long. The **flowers** are in an umbel, **bright rosy red-pink to pink-purple** with a united funnel-like base with 6 spreading free petal lobes above. There are 3 sterile stamens folded around the 3 fertile stamens, and they abruptly constrict at the base. The filaments are triangular and 2-4 mm long, and the anthers are 4-7 mm long.

Similar Species
There are plants that grow west of Paskenta that have sterile stamens similar to *B. coronaria* ssp. *rosea*, yet they have dark blue to purple colored flower parts. These population sites need to be recorded and studied further. The common species *Brodiaea elegans* differs by having sterile stamens that are flat or slightly curved and very distant from the stamens and style; and the flowers are more blue-purple. A second, somewhat similar species is *Triteleia peduncularis* which has 6 functional stamens.

Survey Time
Flowering May to June.

Habitat
Grows in open, sunny places in oak woodland at the edges of ephemeral drainages, serpentine flats and gentle slopes in gravelly (red) gumbo clay derived from serpentine. Associated species include harvest brodiaea (*Brodiaea elegans*), clarkia (*Clarkia purpurea*), monkeyflower (*Mimulus layneae*), foothill pine (*Pinus sabiniana*) and turpentine weed (*Trichostema laxum*). Common associates in the ephemeral drainages include yampah (*Perideridia kelloggii*) and long-rayed brodiaea (*Triteleia peduncularis*).

Threats
Collection and flood stage inundation by Indian Valley Reservoir, recreational usage of campground at upper end of the reservoir.

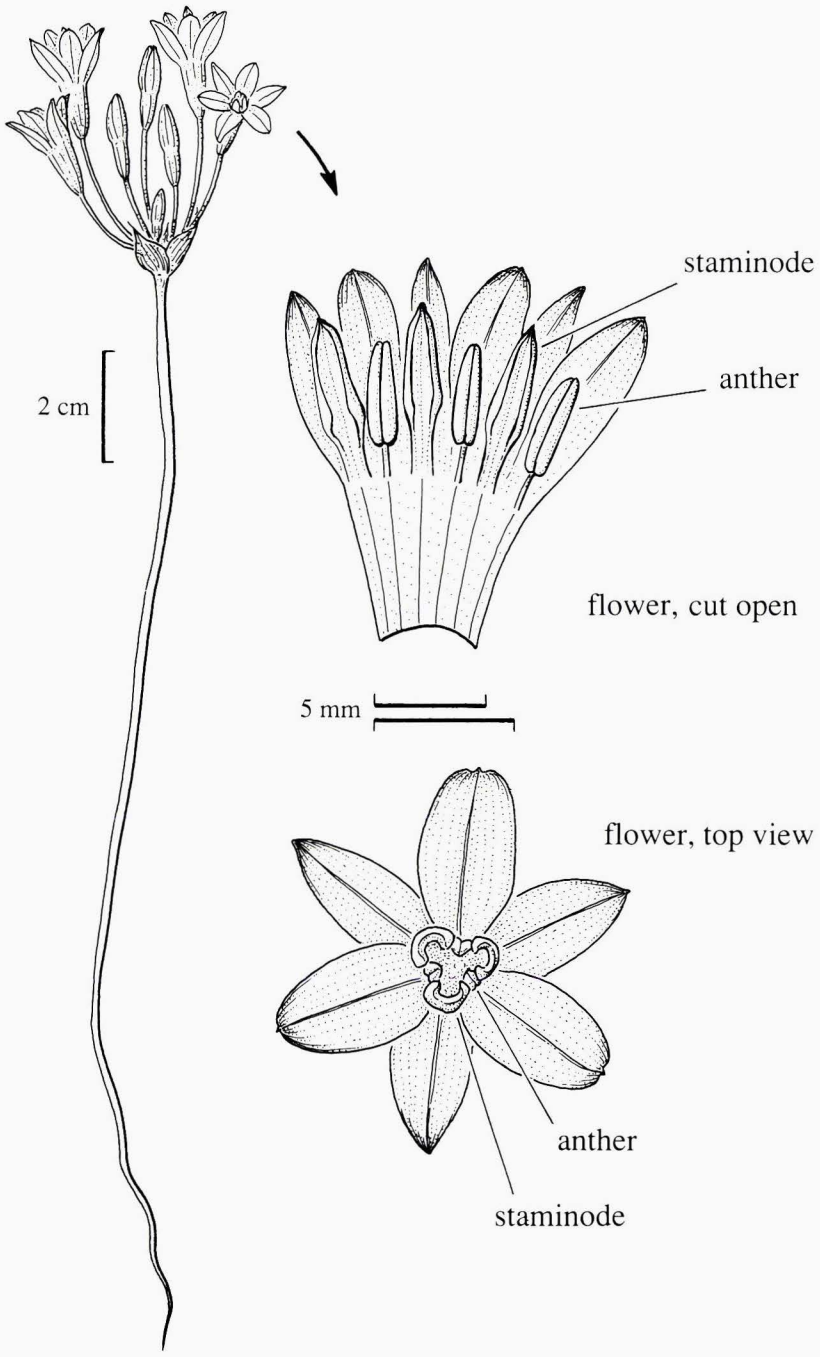
Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
This species is known from 11 populations in the inner north coast ranges of Colusa, Glenn, Lake and Tehama counties at an elevation of 1,100 to 4,750 feet. The filling of Indian Valley Reservoir in 1975 eliminated over one-half of the historic habitat for this species.

Known Localities
Corning Ranger District	Whiskey Saddle (taxonomic questions)
Stonyford Ranger District	Wyley Glade (historic)

There are populations just outside the eastern edge of the Forest near Beehive Flat and Hatch Flat in Tehama County (taxonomic questions), and in the Cook Springs area north of Indian Valley Reservoir in Colusa County.

For Additional Information
CDFG Status report - 1987.
Jepson manual p. 1182 and p. 1187.



***Brodiaea coronaria* (Salisb.) Engl. ssp. *rosea* (E. Greene) T. Niehaus**

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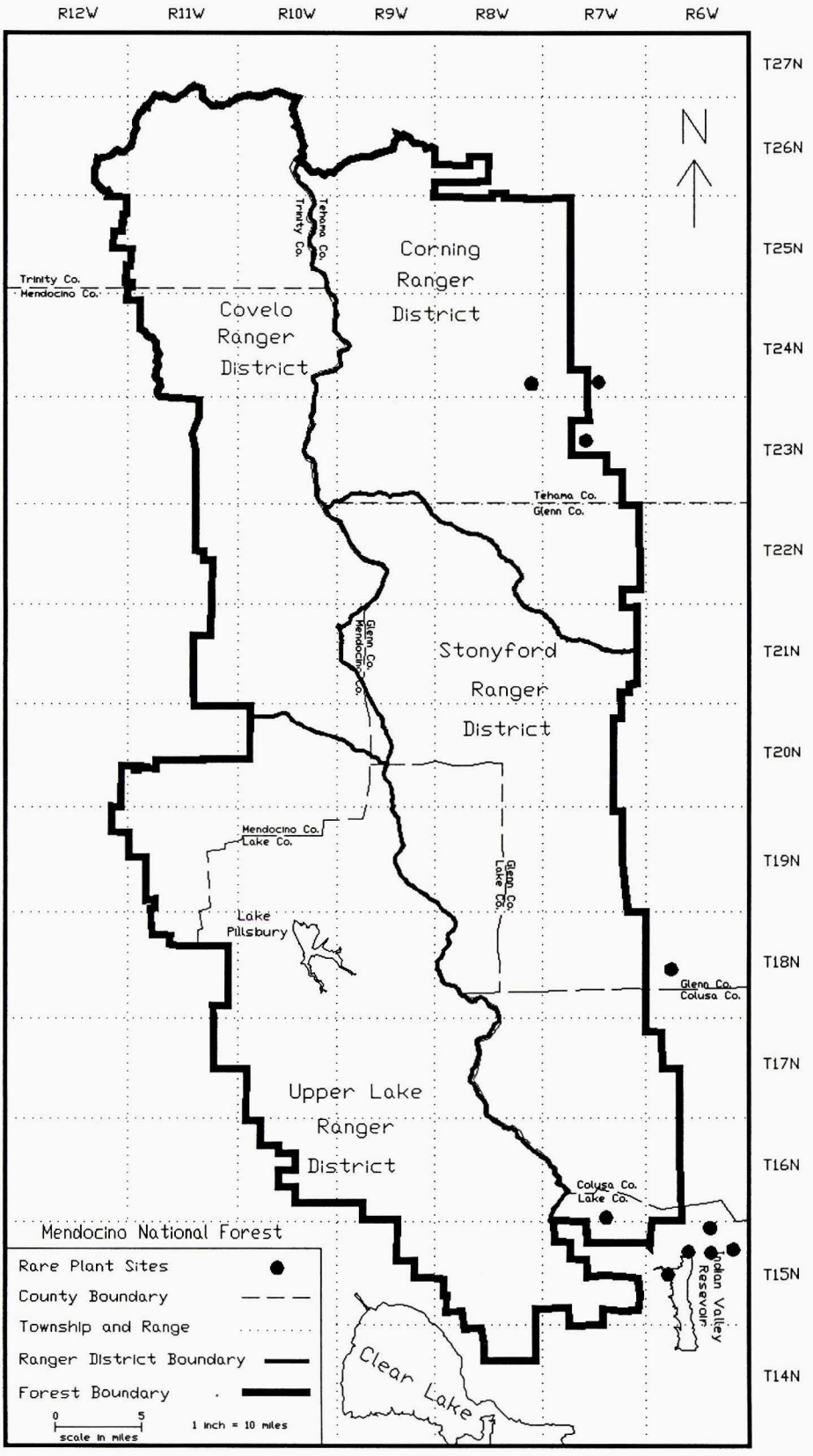
Brodiaea coronaria ssp. *rosea*- Photograph of flowers.

Locations of Brodiaea coronaria ssp. rosea



Epilobium nivium Bdg. — Snow Mountain willowherb

Family Onagraceae

CNPS list: 1B State/Fed. status: none/C3c

Description
Epilobium nivium is a semi-shrubby perennial. Several brittle, 10-20 cm tall stems grow from the woody base. It is hairy throughout and has alternate, lance-shaped leaves tipped with a small point. The junction of the leaf and stem has clusters of small leaflets that are attached in pairs opposite each other. The leaves are thick, not veiny, entire, sessile, 8-15 mm long; **flowers are few, in upper axils**; pedicels 3-5 mm long; flower tube 5-7 mm long above the ovary, reddish; sepals lanceolate, 3-5 mm long; petals **pink to violet-purple**, notched, 7-10 mm long; stamens 8, in two sets of 4, the upper set about 1/2 the length of the petals; style of pistil exceeds petals; stigma-lobes 4, short; capsule subfusiform (tapered at both ends), stout, 10-12 mm long; seeds rather few, smooth, with attached light colored deciduous bristles.

Similar Species
This species is not readily confused with other members of the genus as all others have herbaceous (non-woody) stems and occur mostly in moist or wet habitats.

Survey Time
Flowering July through October.

Habitat
Grows in crevices of rocky outcrops and dry talus and shaley slopes on mountain tops, typically with a southern exposure. Also found on rock outcrops all the way down into the montane chaparral and mixed conifer type. Associated species include white fir (*Abies concolor*), manzanita (*Arctostaphylos canescens*), greenleaf manzanita (*A. patula*), silk tassel (*Garrya fremontii*), oceanspray (*Holodiscus discolor*), Jeffrey pine (*Pinus jeffreyi*), canyon live oak (*Quercus chrysolepis*), Oregon oak (*Quercus garryana*), and black oak (*Q. kelloggii*).

Threats
Disruption associated with logging may be a threat in some locations, others may be susceptible to recreation activities and foot traffic.

Land Ownership
U.S. Forest Service and U.S. Bureau of Land Management.

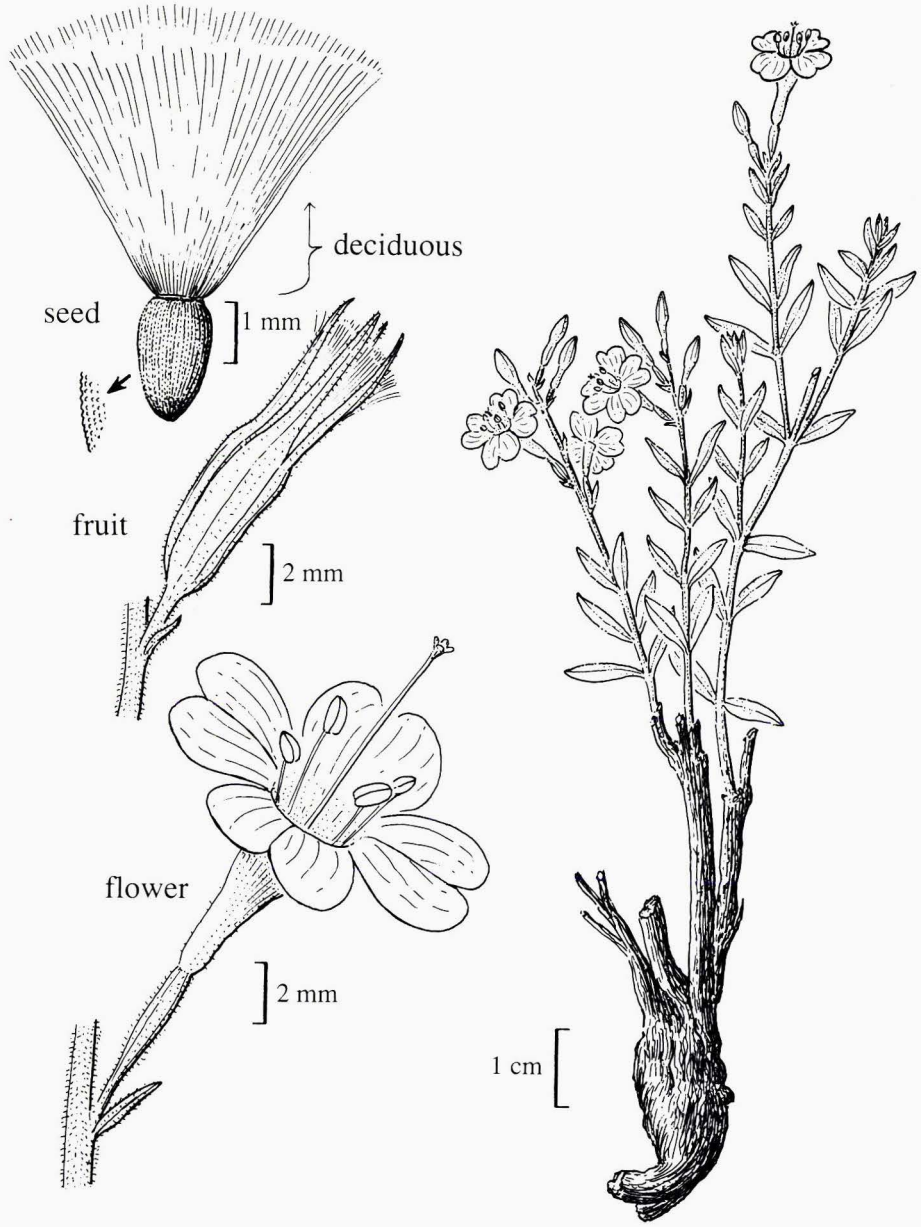
Distribution
This species is found in the inner north coast ranges of Colusa, Glenn, Lake, Mendocino, and Trinity counties at elevations from 5,000-7,000 feet.

Known Localities

Corning Ranger District	Northwest of Ovenlid
Covelo Ranger District	Castle Peak
Stonyford Ranger District	Snow Mountain, Sheetiron Mountain, St. John Mountain, Goat Mountain and Board Camp Ridge.
Upper Lake Ranger District	Hull Mountain

There is one known population just west of the Forest boundary along the Trinity-Mendocino county line on Lightning Camp Ridge.

For Additional Information
CDFG Status Report - 1977, Jepson Manual p. 797 and p. 891, Seavey and Raven, 1977.



Epilobium nivium Brandegee

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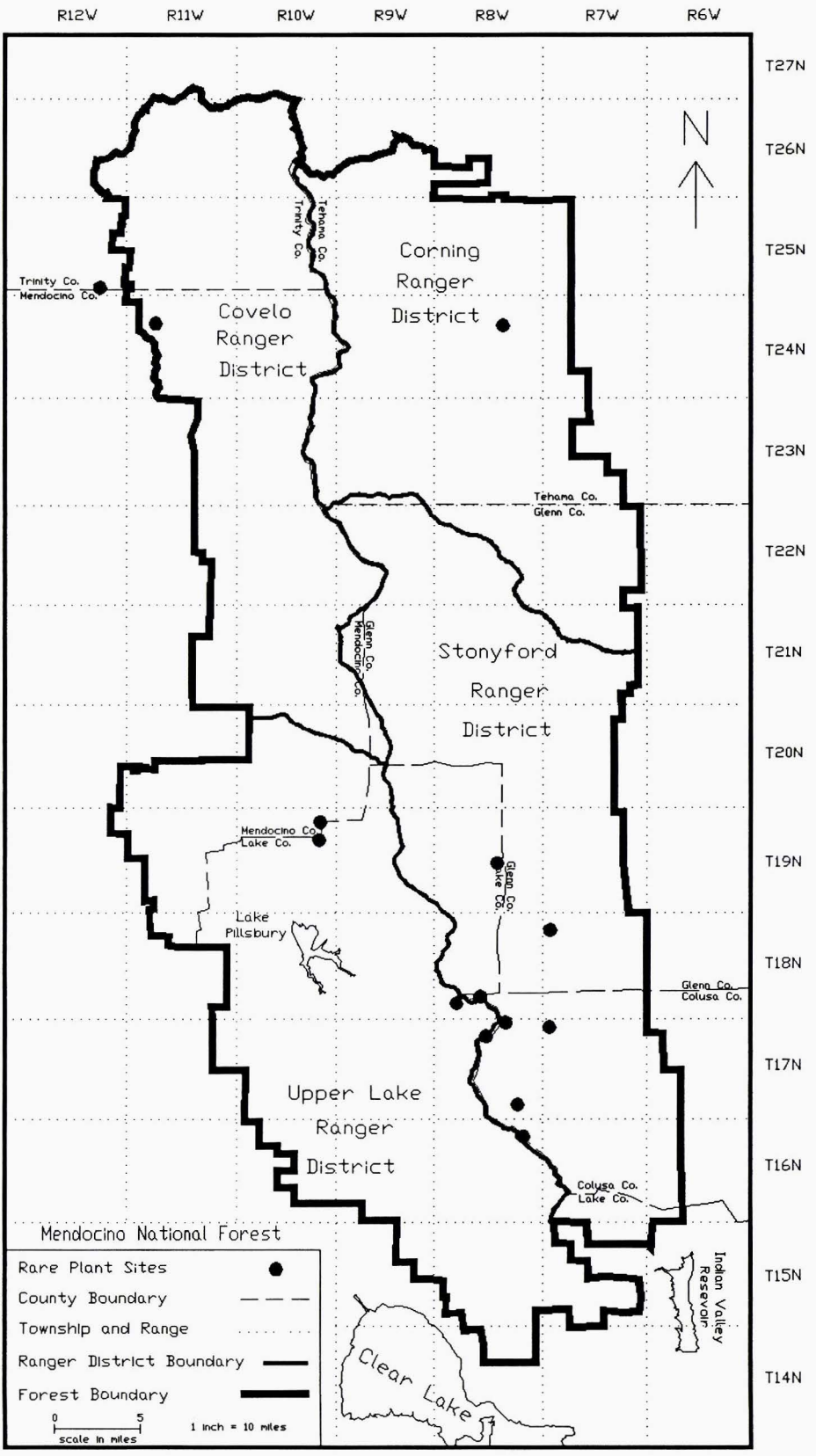
Epilobium niveum- Photograph of habitat and flowering plant in foreground.

Epilobium niveum- Photograph of flowering plant.

Epilobium niveum- Photograph of flower.

Epilobium niveum- Photograph of vegetative stem showing leaf orientation.

Locations of Epilobium nivium



Eriastrum brandegeae Mason — Brandegee's eriastrum

Family Polemoniaceae

CNPS list: 1B State/Fed. status: rare/C2

Description
Eriastrum brandegeae is an annual herb 5-30 cm high, with erect branches, sometimes with tufted wooly hairs; leaves 3-parted into thread-like divisions; heads densely cobwebby; bracts 3-5-lobed, longer than heads; calyx 8-10 mm long, cobwebby, with unequal linear spine-tipped lobes; **corolla** somewhat trumpet-shaped, ca. 10 mm long, **white to pale blue**, the lobes 3 mm long; **stamens** inserted at base of throat, **1-2 mm long**, included; capsule 4 mm long; locules mostly 1-seeded.

Similar Species
Eriastrum abramsii differs from *E. brandegeae* by having blue flowers with a yellow tube and throat and pinnately divided leaves.

Survey Time
Flowering May to August.

Habitat
Found in chaparral openings on extremely shallow mudstone or sandstone soils and in disturbed openings in chamise on serpentine soils. It is intolerant of much other vegetative competition. Associated species include chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos manzanita*), buckbrush (*Ceanothus cuneatus*), deerbrush (*C. integerrimus*), yerba santa (*Eriodictyon californicum*), toyon (*Heteromoles arbutifolia*), foothill pine (*Pinus sabiniana*) and interior live oak (*Quercus wislizenii*).

Threats
Grazing, off-road vehicle use, recreational activities, housing development, biomass power plant, logging activities and vegetative competition.

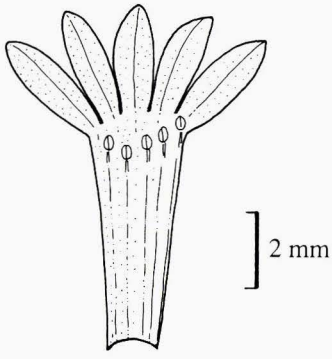
Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
Principally in the north coast ranges of Colusa, Glenn, Lake, Tehama, and Trinity counties at an elevation of 1,000-2,800 feet. One population is known from Santa Clara County.

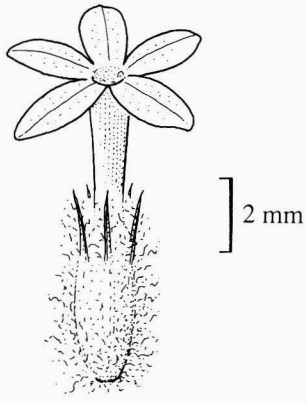
Known Localities
Corning Ranger District	Salt Creek Saddle area
Stonyford Ranger District	Fouts Springs/Davis Flat area

Over two-thirds of the 21 known populations are in or adjacent to the Mendocino National Forest. The map shows some of the locations just east of the Forest from Tehama County to Colusa County.

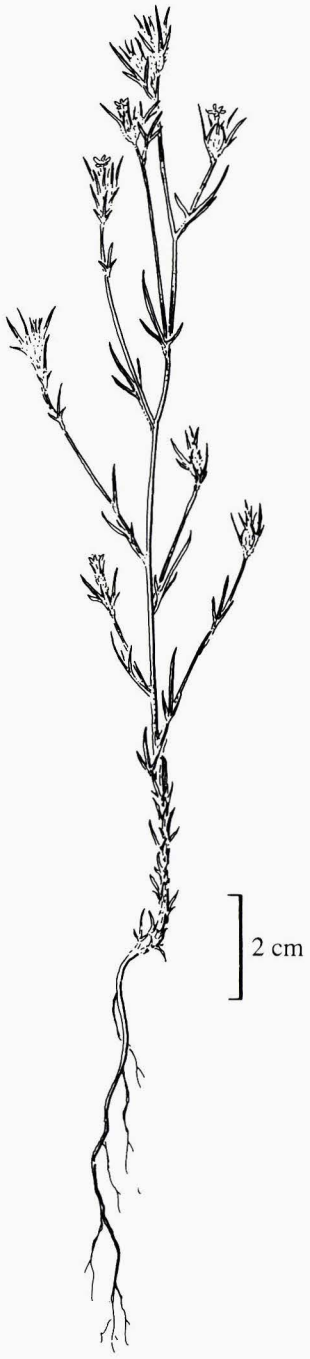
For Additional Information
CDFG Status Report - 1979
MNF Status Report for *Eriastrum tracyi* - 1979
Harrison, 1969
Isle, 1991
Jepson Manual pp. 827-8



corolla, cut open



flower



***Eriastrum brandegeae* H. Mason**

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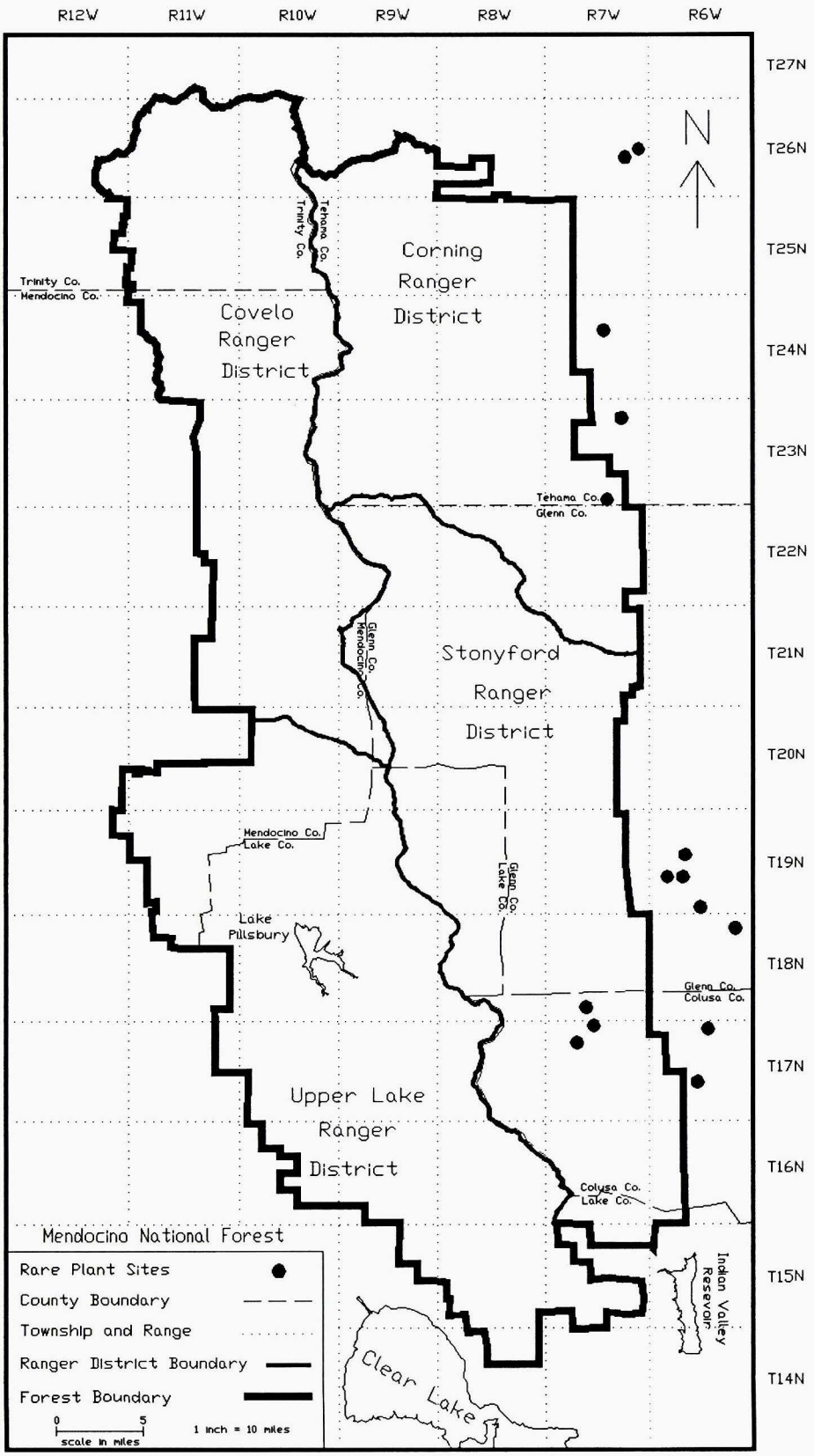
(Above) *Eriastrum brandegeae*-
Photograph of plant in habitat.

(Left) *Eriastrum brandegeae*-
Photograph of plant with flowers and
bracts.

Locations of Eriastrum brandegeae



Eriogonum kelloggii Gray — Kellogg's buckwheat

Family Polygonaceae

CNPS list: 1B State/Fed. status: endangered/C1

Description
Eriogonum kelloggii is an herbaceous perennial, branched from the base and forming mats up to 50 cm across, the stems loosely woolly, branched, with rosettes of leaves at tips; leaves oblanceolate to narrowly spatulate, silky-tomentose and silvery beneath and less so and greenish above, 4-10 mm long, 1-3 mm wide, short-petioled; scapes slender, 4-7 cm long, **with whorl of leafy bracts near middle**; involucre solitary, turbinate, tomentose, with short erect teeth; calyx whitish or pinkish, glabrous, 5-7 mm long, stalked at base; filaments hairy below; akenes angled-conical, glabrous except at summit, ca. 5 mm long.

Similar Species
This species shares many characteristics with *Eriogonum caespitosum* and *E. douglasii*. However both these species grow on the east slope of the Sierra Nevada and have not been collected in northwest California.

Survey Time
Flowering June to August.

Habitat
Found in open areas on shallow, rocky serpentine soil. Associated species include McDonald's rock cress (*Arabis macdonaldiana*), Siskiyou ceanothus (*Ceanothus pumilis*), Sargent cypress (*Cupressus sargentii*), three-toothed horkelia (*Horkelia tridentata* ssp. *flavescens*) and knobcone pine (*Pinus attenuata*).

Threats
Surface mining activities.

Land Ownership
U.S. Bureau of Land Management, California Department of Fish and Game and private.

Distribution
Known only from Red Mountain and Little Red Mountain in northern Mendocino County at an elevation between 3,000-4,000 feet.

Known Localities
All known occurrences are from the Red Mountain and Little Red Mountain area of Mendocino County, about thirty miles west of the Forest.

For Additional Information
CDFG Status Report - 1987
MNF Status Report - 1979
Jepson Manual p. 874 and p. 877

This species does not have an illustration, photograph or map in this handbook.

Eriogonum nervulosum (S. Stokes) Reveal — Snow Mountain buckwheat

Family Polygonaceae

CNPS list 1B — State/Fed. status: none/C3c

Description
Eriogonum nervulosum is a **low-growing** perennial, from a woody base, forming mats 5-30 cm in diameter, 10 cm tall. The plant is branched from the base, with branches spreading along the ground and sometimes rooting. The **leaves** are ovate, **0.4-1.5 cm long**, 0.5-1 cm wide, the upper surface lightly hairy or glabrous, the lower surface more densely hairy often with brownish hairs. The flower stalks are 4-6 cm long. The inflorescence is short and congested, somewhat umbrella-shaped, with hairy leafy main bracts (= rays) and smaller bracts (involucres), the involucres are solitary on each ray and top-shaped. The flowers are composed of petal-like calyces in 2 series of 3, pink to red in color, hairless, 4-6 mm long with a short **stalk-like base.** The fruits are light brown, 4-5 mm long, with a 3-angled beak.

Similar Species
This species differs from *Eriogonum ursinum* by having a longer flower stalk, congested somewhat head shaped inflorescence and by being restricted to serpentine barrens habitat. *Eriogonum strictum* var. *greenei* differs in having a calyx that does not have a long stalk-like base.

Survey Time
Flowering June through September.

Habitat
This species is primarily restricted to barren serpentine outcrops and slopes, where it often grows on the less steep bases or ridgetops of the barrens. It also grows on serpentine strata on exposed rocky flats and slopes or in the crevices of outcrops at the higher elevations (1,980-2,100 m) of Snow Mountain, where *Eriogonum strictum* var. *greenei* has been found growing with it. Serpentine associates include wild onion (*Allium falcifolium*), Socrates Mine jewelflower (*Streptanthus brachiatus*) and Morrison's jewelflower (*S. morrisonii*). *Eriogonum nervulosum* does not, however, grow directly with these other species.

Threats
The main threats currently are geothermal energy development, mining, and off-road vehicles (in unauthorized areas). These types of activities physically disturb the highly erodible serpentine barrens habitat and destabilize the plants. Road development and maintenance potentially could increase erosion in some areas also.

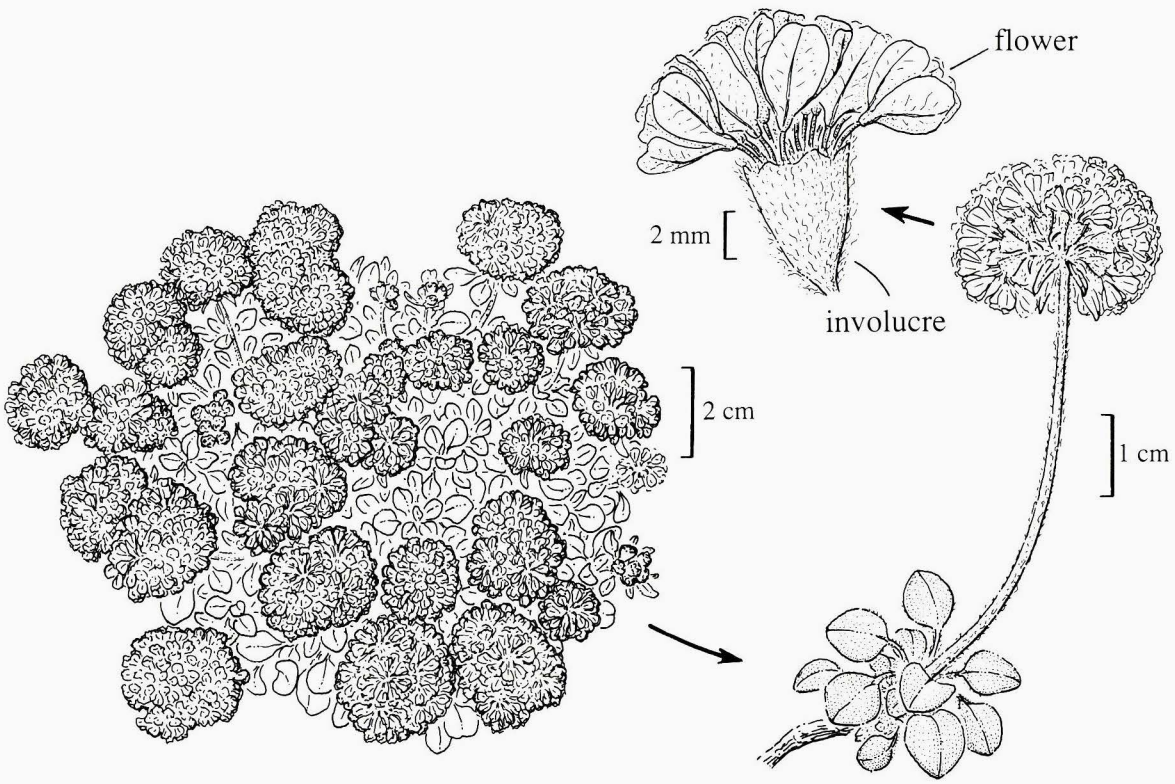
Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
It occurs on a series of serpentine barrens as well as high mountain top areas distributed in Colusa, Glenn, Lake, Napa, Sonoma, and Yolo counties at elevations between 1,000-6,900 feet.

Known Localities
Stonyford Ranger District — Frenzel Creek Research Natural Area and Snow Mountain

There is a known occurrence just outside the southeast corner of the Forest in the Indian Valley Reservoir area.

For Additional Information
CDFG Status Report - 1979.
Jepson manual pp. 876-7.
McCarten and Rogers 1991.



***Eriogonum nervulosum* (S. Stokes) Rev.**

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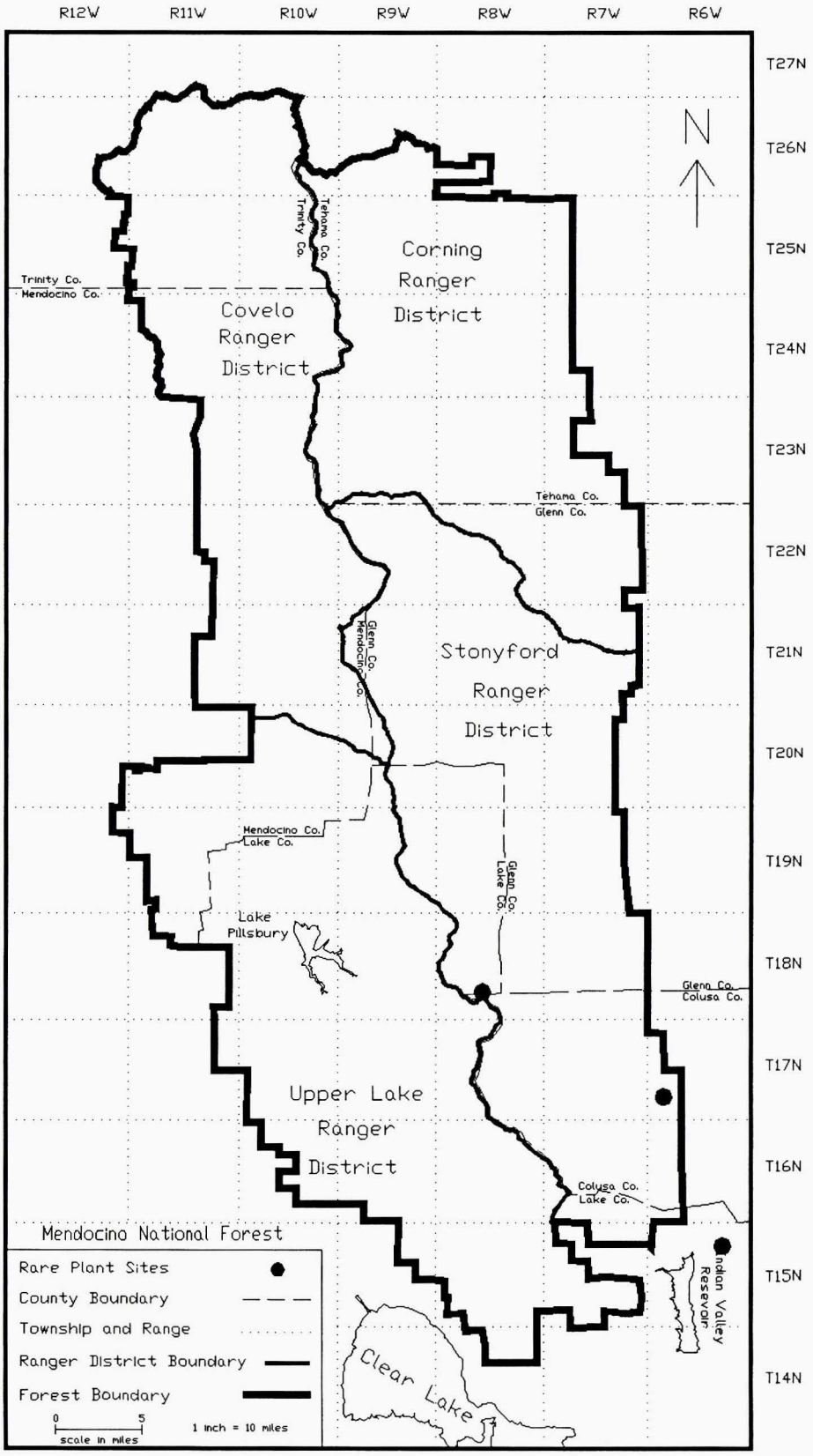
Eriogonum nervulosum- Photograph of flowering plant.

Locations of Eriogonum nervulosum



Fritillaria pluriflora Torr. in Benth. — adobe lily

Family Liliaceae

CNPS list: 1B State/Fed. status: none/C2

Description
The *Fritillaria pluriflora* bulb is yellowish, 13-25 mm long, of several large scales; stem 20-45 cm long; leaves clustered near base, alternate, elliptic to obovate-oblong, 6-12 cm long, 7-15 mm wide; flowers 1-3(-7), nodding, **bell-shaped, uniformly pinkish-purple**; perianth-segments obovate, 25-35 mm long, 7-15 mm wide, the gland continuing as a green vein; stamens half as long as segments; **style exceeding stamens; stigmas 3-lobed**; capsule truncate, obtusely angled, equally long and broad.

Similar Species
Fritillaria striata is similar to *F. pluriflora*, but it is known from the southern San Joaquin Valley. *Fritillaria striata* has petals and sepals that curve upward at the tips and the style is not longer than the stamens.

Survey Time
Flowering February to April.

Habitat
Open grassland fields in adobe soil (often derived from serpentine) in foothill woodland or the chaparral-foothill woodland interface. The clay soils supporting adobe lily are often saturated in late winter or early spring at the time of flowering, which is usually before much growth has occurred on the surrounding annual grasses. Associated species include fringed onion (*Allium fimbriatum*), soft chess (*Bromus hordeaceus*), naked-stemmed buckwheat (*Eriogonom nudum*), California dwarf flax (*Hesperolinon californicum*) and blue oak (*Quercus douglasii*).

Threats
The main threats come to the populations outside the forest from intensive grazing, development, road construction and maintenance, mining, and horticultural collecting.

Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management, Caltrans and private.

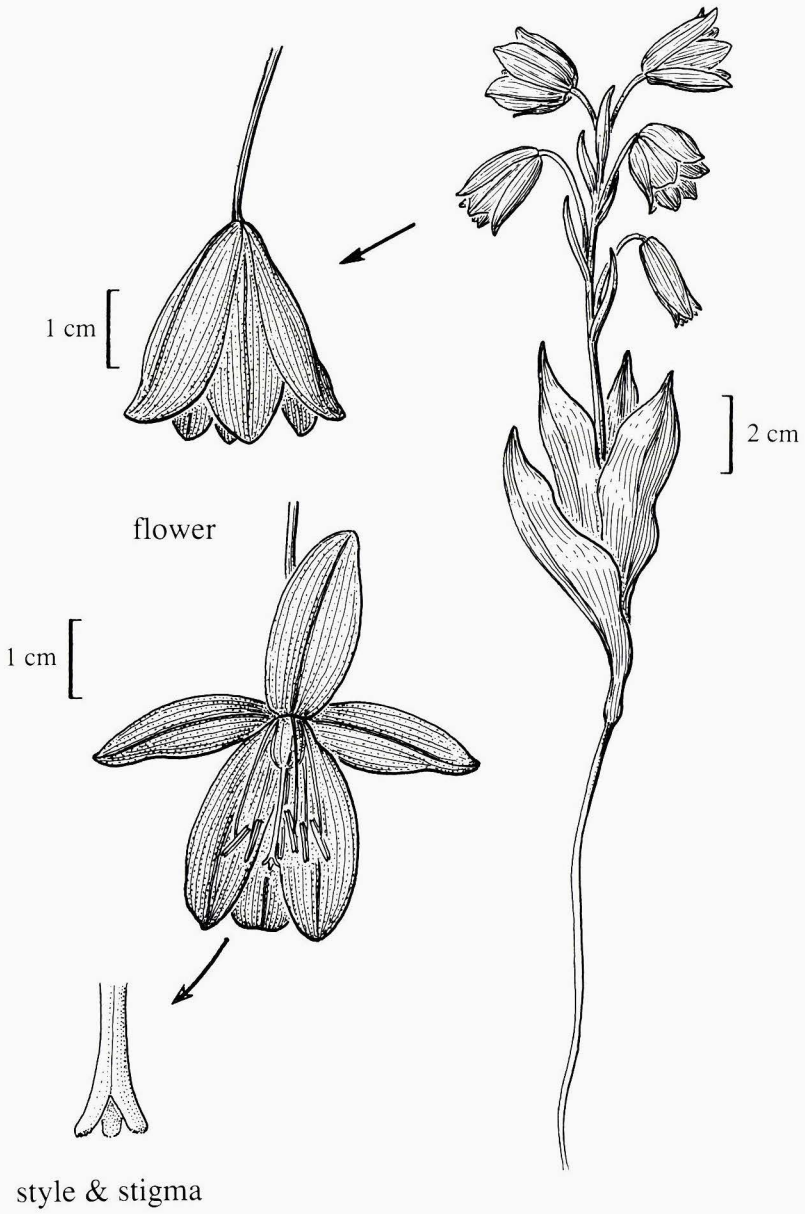
Distribution
Northern California foothills of Coast Range and Sierra Nevada in Butte, Colusa, Glenn, Lake, Napa, Plumas, Tehama, and Yolo counties at an elevation of 200-2,300 feet.

Known Localities

Corning Ranger District	Salt Creek area
Stonyford Ranger District	Little Stony Creek Road, South Fork Elk Creek area (historical)

Known from less than 60 occurrences, more than a third of which are either presumed extirpated or have not been reported since the 1960's. Eleven of these occurrence lie within five miles of the eastern edge of the Forest from Tehama County to Colusa County.

For Additional Information
CDFG Status Report - 1988
Jepson Manual p. 1196 and p. 1201



***Fritillaria pluriflora* Benth.**

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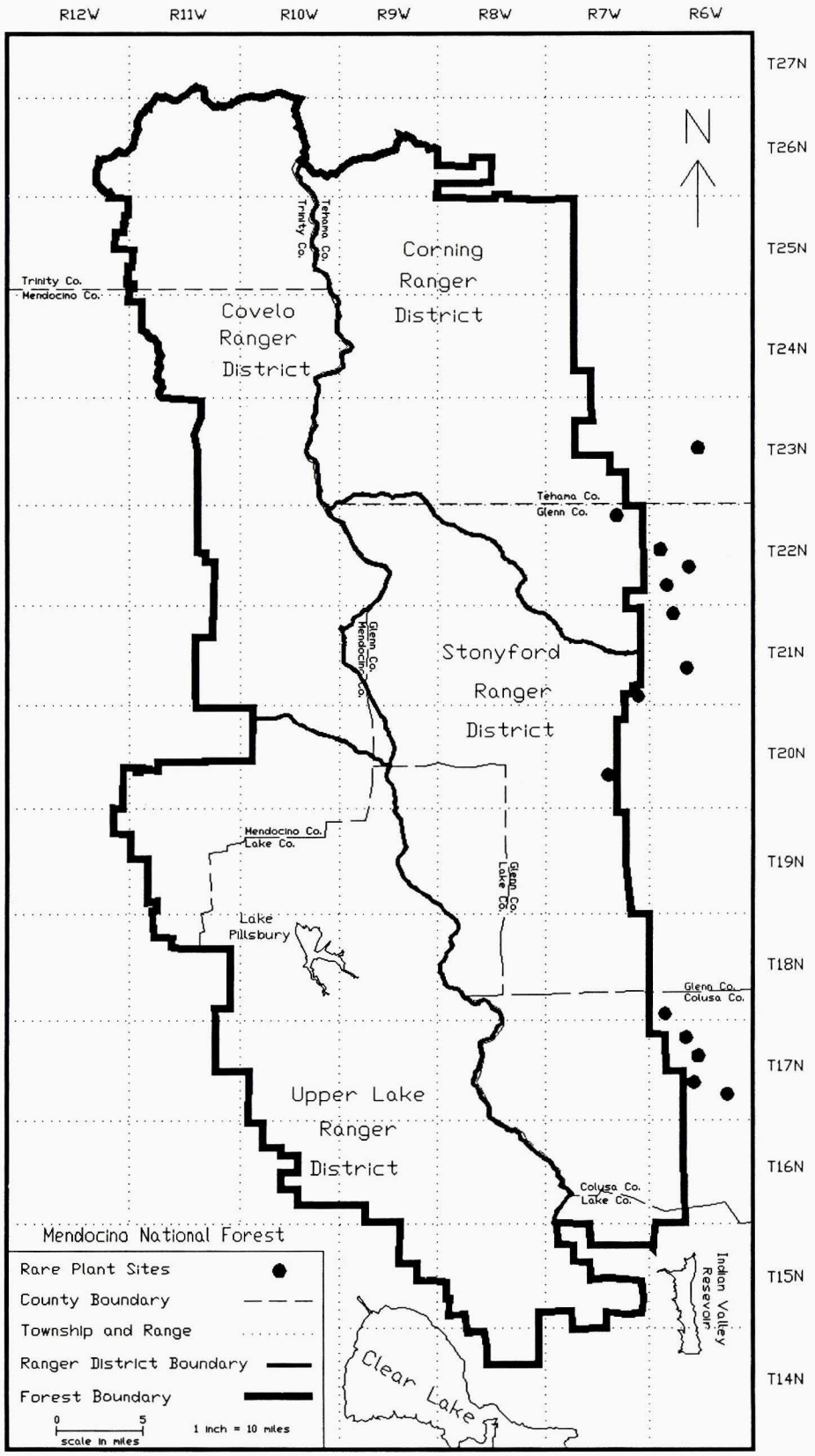
Fritillaria pluriflora- Photograph of flowering plant.

Locations of Fritillaria pluriflora



Hesperolinon adenophyllum (Gray) Small — glandular dwarf flax

Family Linaceae

CNPS list: 1B State/Fed. status: none/C3c

Description
Hesperolinon adenophyllum is an annual herb 10-35 cm tall, hairless except for short hairs at internodes immediately above bracts; **leaves alternate except lowermost which are opposite or in a whorl of 4**, linear to lanceolate, 0.5-2 cm long, 0.1-0.25 cm wide, **keeled**, clasping the stem near their base, margins **glandular-toothed** with up to 3 rows of minute teeth near leaf base; bracts of inflorescence-like reduced leaves; flower stems 0.3-1.5 cm long; **petals 5, yellow, sometimes tinged red**, 0.3-0.4 cm long and ca. 0.2 cm wide, petals deciduous after fertilization; sepals green, 0.2-0.3 cm long, sometimes with microscopic glandular teeth on margin; carpels and **styles 3**, style length equal to stamens, then growing longer after fertilization, carpels each producing two dark brown seeds.

Similar Species
This species is very distinctive due to its prominent glandular teeth on the leaves, and having lanceolate instead of linear or ovate leaves. *Hesperolinon bicarpellatum* also has yellow flowers but differs in having only 2 styles and carpels, and lacks the glandular-toothed leaves. *Hesperolinon clevelandii* also occurs in the area but has yellow flowers that are only 0.2 cm long, as compared to 0.3 to 0.4 cm long for *H. adenophyllum*, and it lacks glandular leaves. *Hesperolinon tehamense* has yellow flowers, but does not have leaves with glandular teeth.

Survey Time
Flowering May to August.

Habitat
Occurs in serpentine grasslands and grassy openings of serpentine chaparral. Near Rice Creek, individuals occur between patches of serpentine chaparral in an area that is entirely composed of herbaceous plants including soft brome (*Bromus hordeaceus*), calycadenia (*Calycadenia pauciflora*), and big squirreltail (*Elymus multisetus*). Other plant associates include white-leaf manzanita (*Arctostaphylos viscida*), Jepson's ceanothus (*Ceanothus jepsonii* var. *albiflorus*) and leather oak (*Quercus durata*).

Threats
Grazing activity, recreational activity and geothermal development.

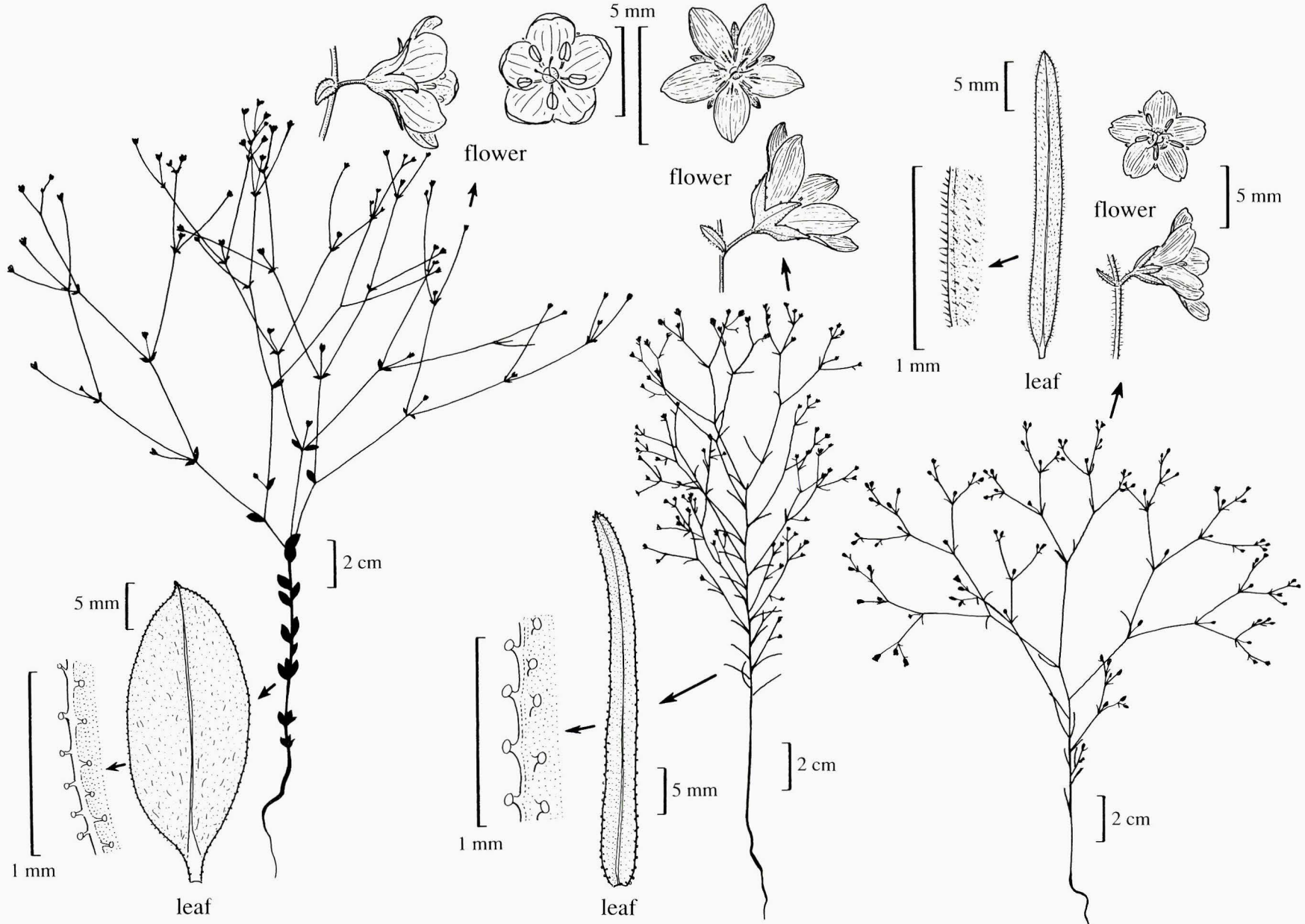
Land Ownership
U.S. Forest Service and private.

Distribution
Hesperolinon *adenophyllum* is distributed mainly in Lake County at elevations ranging from 1,400-4,300 feet. It has also been reported from Humboldt and Mendocino counties (Sharsmith, 1961).

Known Localities
Upper Lake Ranger District Potato Hill, west shore of Lake Pillsbury, Rice Creek and Bear Creek areas

There are two known occurrences just outside the Forest, one at the western base of Middle Mountain, and one north of Lucerne. Other known populations are farther south in Lake County.

For Additional Information
MNF Status Report 1979, Jepson Manual p. 739 and p. 743, McCarten 1988c, 1993a; McCarten and Rogers 1991, Sharsmith 1961



***Hesperolinon drymarioides* (Curran) Small** ***H. adenophyllum* (A. Gray) Small** ***H. tehemense* H. Sharsm.**

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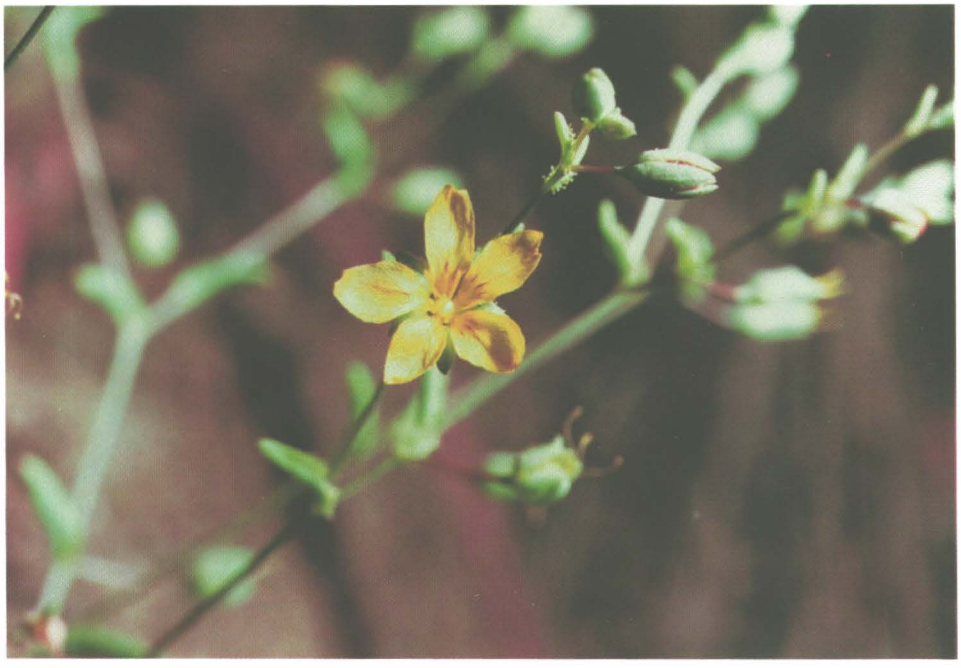
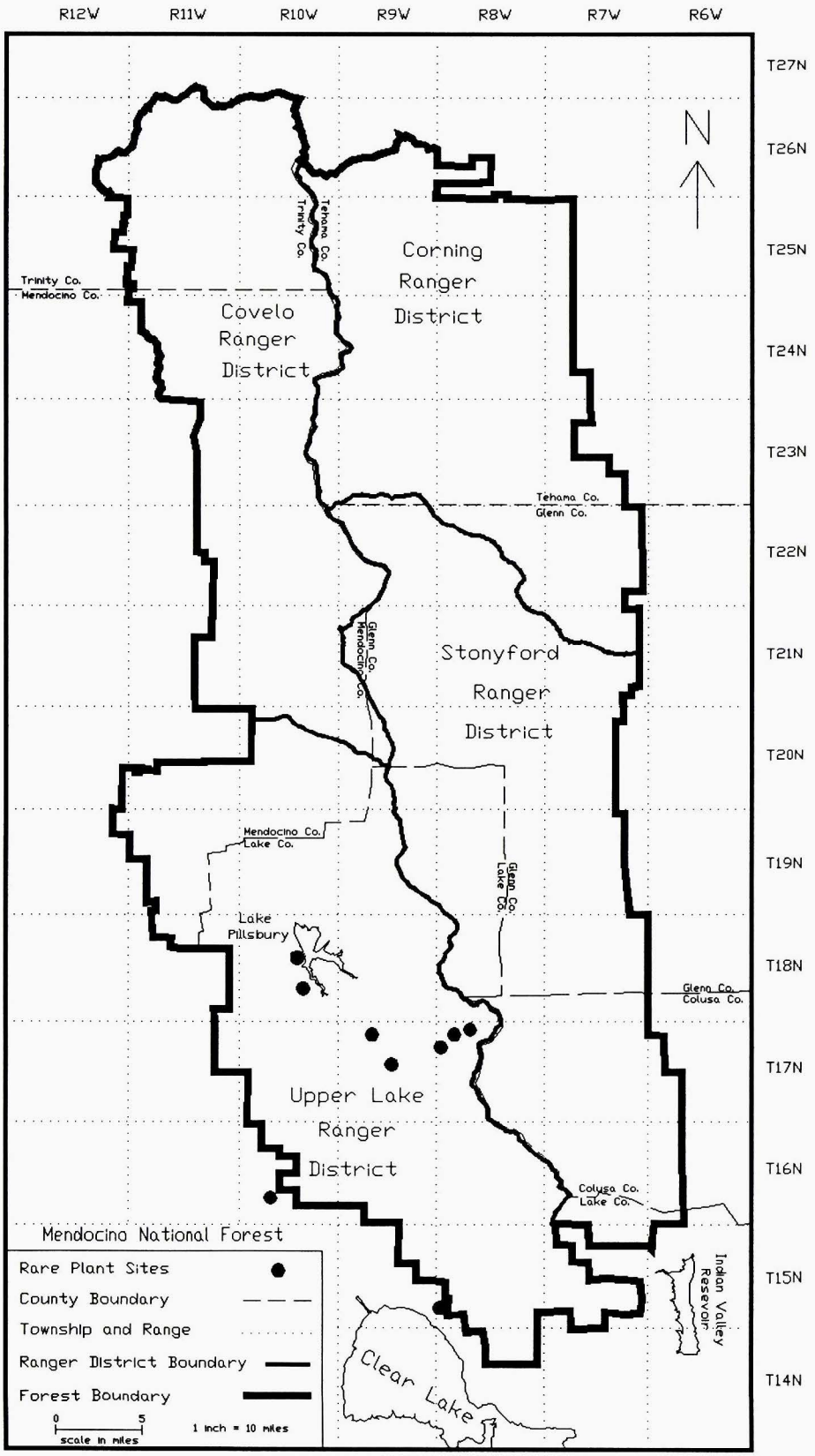


Hesperolinon adenophyllum- Close-up photograph of flower.

Hesperolinon adenophyllum- Close-up photograph of glandular-tooth leaves.

Locations of Hesperolinon adenophyllum



Hesperolinon drymarioides (Curran) Small — drymaria-like dwarf flax

Family Linaceae

CNPS list: 1B State/Fed. status: none/C2

Description
Hesperolinon drymarioides is an annual herb 10-20 cm tall, short hairy throughout especially on lower part of plant; branches dichotomous; **lower leaves in a whorl of 3-4**, upper branch leaves opposite, **ovate**, 0.4-0.8 cm long, 0.3-0.6 cm wide, clasping stem near their base, **margins glandular toothed with up to 2 rows of minute teeth**; bracts of inflorescence-like reduced leaves alternate; flower stems 0.1-0.2 cm long; petals 5, **white to pink**, 0.3-0.5 cm long, petals deciduous after fertilization; sepals glandular-margined, green 0.2-0.4 cm; **carpels and styles 3**, style length equal to stamens, carpels each producing two dark brown seeds.

Similar Species
This species is very distinctive due to its ovate, whorled glandular-margined leaves.

Survey Time
Flowering from May to August.

Habitat
Occurs in openings of serpentine grey pine-chaparral, northern interior cypress forest and mixed serpentine chaparral. Plant associates include white-leaf manzanita (*Arctostaphylos viscida*), McNab cypress (*Cupressus macnabiana*), Sargent's cypress (*Cupressus sargentii*), foothill pine (*Pinus sabiniana*) and leather oak (*Quercus durata*). Plants are generally clustered in groups of 1-10 in openings between trees and shrubs in dark red serpentine soil of the Henneke soil series. Populations having high densities (5-20 plants per square meter), are mostly in areas that have been naturally disturbed, such as by tree falls or fires.

Threats
Populations in the Mendocino National Forest potentially are threatened by road grading and expansion, and vehicle use. In addition, Griggs and Dibble (1979) stated that increases in cattle grazing from neighboring ranches in the vicinity of Rice Creek could reduce the populations in that area. In Napa County, mining is a major threat to the local populations.

Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
The species is known from the inner north coast ranges of Colusa, Glenn, Lake, Napa and Yolo counties at elevations from 1,300 to 3,100 feet. The populations in northern Lake County, near Rice Creek, represent the known western limit of the species distribution.

Known Localities

Stonyford Ranger District	Little Stony Creek, Frenzel Creek Research Natural Area and Black Diamond Ridge
Upper Lake Ranger District	Rice Creek west of Rice Valley

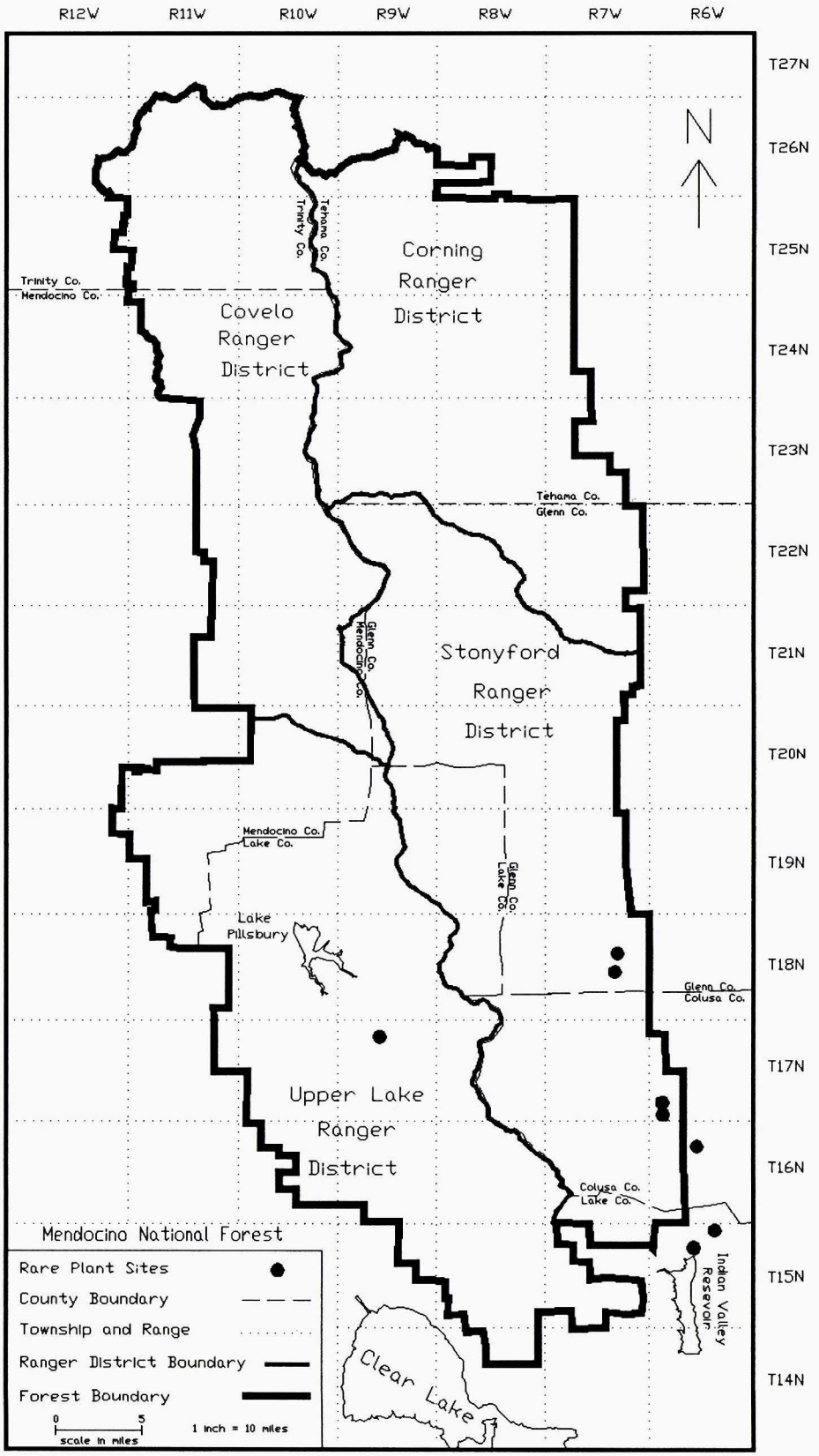
There are several populations just outside the southeast border of the Forest in the Complexion Canyon and Cooks Springs areas.

For Additional Information
MNF Status Report - 1979, Jepson Manual p. 739 and p. 743, McCarten 1988a, 1993a, McCarten and Rogers 1991, Sharsmith 1961.

Hesperolinon drymarioides- Close-up photograph of flowers and buds.

Hesperolinon drymarioides- Photograph of whorled lower leaves.

Locations of Hesperolinon drymarioides



Hesperolinon tehamense H.K. Sharsm. — Tehama County western flax

Family Linaceae

CNPS list: 1B State/Fed. status: none/C2

Description
Hesperolinon tehamense is an annual herb, branching in upper half of plant; **stems with short hairs particularly at the nodes;** leaves in whorl of three to rarely five at base, becoming opposite and then alternate further up the stem, lower leaves deciduous once the plant begins to flower, leaves linear, 0.5-2 cm long, 1-3 mm wide, with minute glands along the margin; inflorescence branching from leaf nodes, **flowers yellow,** petals 4 to 8 mm long with small notch in tip; sepals glabrous, but with minute glands on the margin.

Similar Species
This species differs from *Hesperolinon adenophyllum* by not having the glandular teeth along the margins of the leaves and sepals.

Survey Time
Flowering May through July.

Habitat
Occurs in openings in mixed serpentine chaparral.

Threats
Off-road vehicles and road widening.

Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management, and private.

Distribution
Known from northwestern Glenn County and southwestern Tehama County.

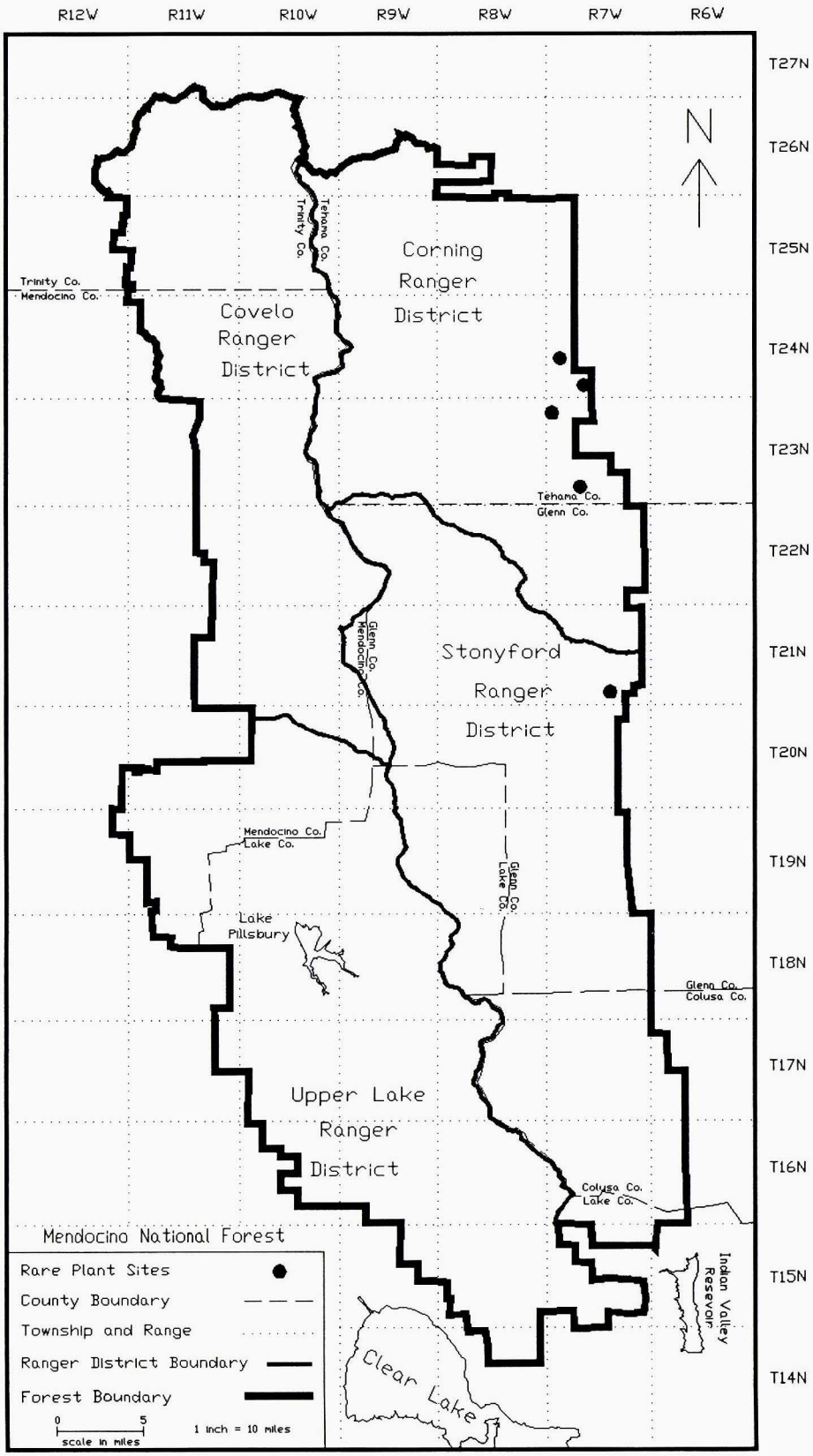
Known Localities
Corning Ranger District	south of Mill Creek, Eagle Rock
Stonyford Ranger District	Salt Creek area

For Additional Information
Jepson Manual p. 739
McCarten 1988c, 1993a
McCarten amd Rogers 1991
Sharsmith 1961

Hesperolinon tehamense- CLose-up photograph of flowering stems and flowers.

Hesperolinon tehamense- Photograph of habitat.

Locations of Hesperolinon tehamense



Howellia aquatilis Gray — water howellia

Family Campanulaceae

CNPS list: 1A State/Fed. status: none/C1

Description
Howellia aquatilis is a flaccid annual, aquatic herb, mostly submergent, often with shortly emergent branches; plants naked below, branched above; whole plant glabrous, greeen, about 10-60 cm tall, occasionally taller; leaves numerous, alternate, or some of them subopposite or whorled in threes, linear or linear-filiform, entire or nearly so, 1-5 cm long, up to 1.5 mm wide; flowers white, mostly 3-10, axillary, often scattered, pedicellate or subsessile, both petaliferous (when emergent) or much reduced and inconspicuous (when submerged), the fully-developed, emergent corollas about 2-2.7 mm long, irregular, with the tubes deeply cleft dorsally, and five-lobed; filaments and anthers connate, two of the anthers shorter than the others; calyx lobes 1.5-7 mm long; stout pedicels 1-4 mm long, merging gradually with the base of the capsule; ovary unilocular, with parietal placentation; stigma 2-lobed; fruit 5-13 mm long, 1-2 mm thick, irregularly dehiscent by the rupture of the very thin lateral walls; seeds large, 2-4 mm long, 5 or fewer, shiny brown.

Similar Species
Howellia aquatilis comprises a monotypic genus, but resembles several genera belonging to the Campanulaceae. It is distinguished from its close relatives by its pedicillate flower and capsule; submerged aquatic, annual habit; and its tiny corolla (< 3 mm on emergent flowers).

Survey Time
Flowering May through August.

Habitat
An aquatic species that is restricted to the quiet water of retired oxbow sloughs and glacially formed pothole ponds and shallow lakes that dry out substantially by the end of each growing season. Associated species may include foxtail (*Alopecurus saccatus*), water-starwort (*Callitriche heterophylla*), spikerush (*Eleocharis macrostachya*), buttercup (*Ranunculus aquatilis*) and (*R. reptans*).

Threats
Unknown

Land Ownership
U.S. Forest Service.

Distribution
One historic occurrence (1928) in California from several ponds near Howard Lake in the Mendocino National Forest. Other widely separated localities include 1 population in northern Idaho, 59 populations in northwestern Montana, 16 populations in Washington and a historical occurrence in the Willamette Valley of Oregon.

Known Localities
There are no currently known localities for this species in California.

For Additional Information
MNF Status Report - 1980

This species does not have an illustration, photograph or map in this handbook.

Lewisia stebbinsii Gankin & Hildreth — Stebbins' lewisia

Family Portulacaceae

CNPS list: 1B State/Fed. status: none/C2

Description
Lewisia stebbinsii is an herbaceous perennial with a **succulent rosette** of early **deciduous** (before the scapes) **leaves** 2-8 cm long, 1-2 cm wide, **linear-spatulate to oblanceolate**, stem leaves reduced to glandular dentate bracts; **scapes deciduous, trailing**, 7-14 cm long, bearing 3-11 flowers; margins of the two sepals lined with maroon galnds; petals fleshy, **white on lower portion, rose with darker veins on upper portion**. Since both scapes and leaves are deciduous, by mid-July there are no signs of this species.

Similar Species
Lewisia stebbinsii is very distinct due to its numerous large pink flowers. Nearby *Lewisia* species are *L. triphylla*, which lacks a basal rosette of leaves, and *L. nevadensis* which has a flowering stem that scarcely exceeds the basal leaves, and branches that usually support only 1 flower, while *L. stebbinsii* usually supports multiple flowers. Both of these species grow in very damp areas near springs and bogs.

Survey Time
Flowering May through July.

Habitat
Grows in dry, exposed, gravelly flats amidst volcanic rock and rubble, adjacent to sparse Jeffrey pine/white fir forest. Recently found to grow among brewer oak. Vegetation is sparse, mostly consisting of herbaceous perennials that die back in the fall. The most favorable habitat is on northwest to northeast-facing slopes. Associated species include white fir (*Abies concolor*), wild onion (*Allium falcifolium*), sagebrush (*Artemisia* sp.), pussypaws (*Calyptridium umbellatum*), fleabane daisy (*Erigeron lassenianus*), horkelia (*Horkelia tridentata* ssp. *flavescens*), lewisia (*Lewisia nevadensis*), phoenicaulis (*Phoenicaulis cheiranthoides*), Jeffrey pine (*Pinus jeffreyi*), brewer oak (*Quercus garryana* var. *breweri*), douglas violet (*Viola douglasii*) and violet (*V. hallii*).

Threats
Road development and management, off-road vehicle use, grazing activities, and horticultural collecting.

Land Ownership
U.S. Forest Service and private.

Distribution
In the inner north coast range of northern California in Mendocino and Trinity counties, ranging in elevation from 5,500 to 6,700 feet.

Known Localities

Covelo Ranger District	Leech Lake Mountain, Soldier Ridge, Buzzard Roost, Hells Half Acre/Calamese Rock/Goat Rock area
Upper Lake Ranger District	South of Milsap Cabin site

For Additional Information
CDFG Status Report - 1979
Jepson Manual p. 903
McCarten 1988b

Lewisia stebbinsii **Gankin & Hildreth**

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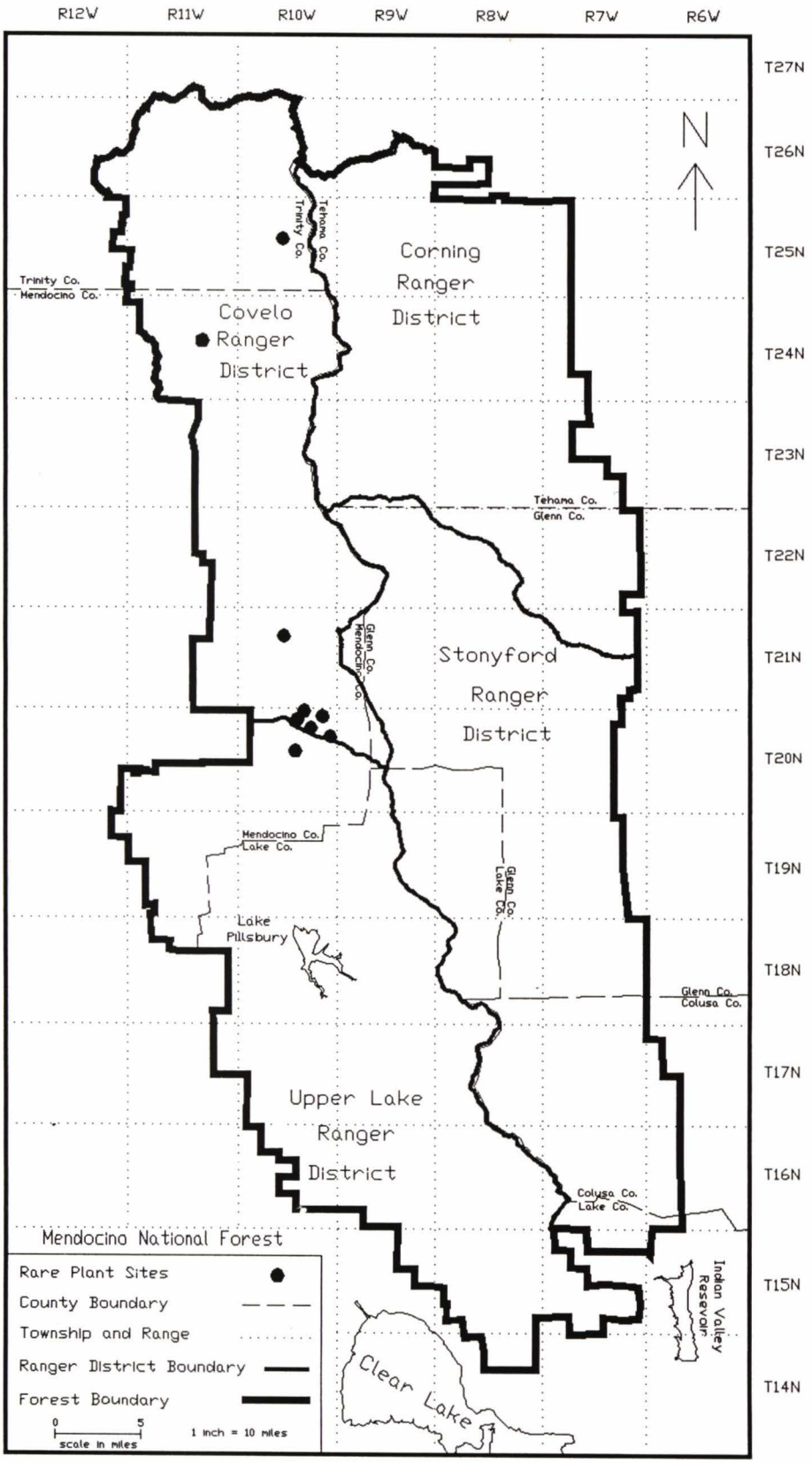
Lewisia stebbinsii- Close-up photograph of flower.

Lewisia stebbinsii- Photograph of flowering plant.

Locations of Lewisia stebbinsii



Lupinus antoninus Eastw. — Anthony Peak lupine

Family Fabaceae

CNPS list: 1B — State/Fed. status: none/C2

Description
Lupinus antoninus is a perennial gray to silvery-hairy subshrub with 20-50 cm long erect stems; leaves cauline, stipules 10-12 mm, petiole 1-2 cm, leaflets 6-7, 15-25 mm long; inflorescence 4-20 cm, open, peduncle 1-4 cm, pedicel 3-4 mm, flowers not whorled, bracts 7-8 mm, semideciduous; flower 12-14 mm, calyx upper lip 6-8 mm, 2-toothed, lower lip 6-8 mm, 3-toothed, petals white, banner back glabrous, patch turning tawny, keel glabrous; fruit 2.5-3.5 cm long, 14-17 mm wide, silky; seeds 4-5, 7-11 mm mottled brown.

Similar Species
Lupinus adsurgens differs by having yellowish to violet flowers.

Survey Time
Flowering May to July.

Habitat
Grows on rocky outcrops and dry talus and shaley slopes on mountain tops above timber line.

Threats
Trail development.

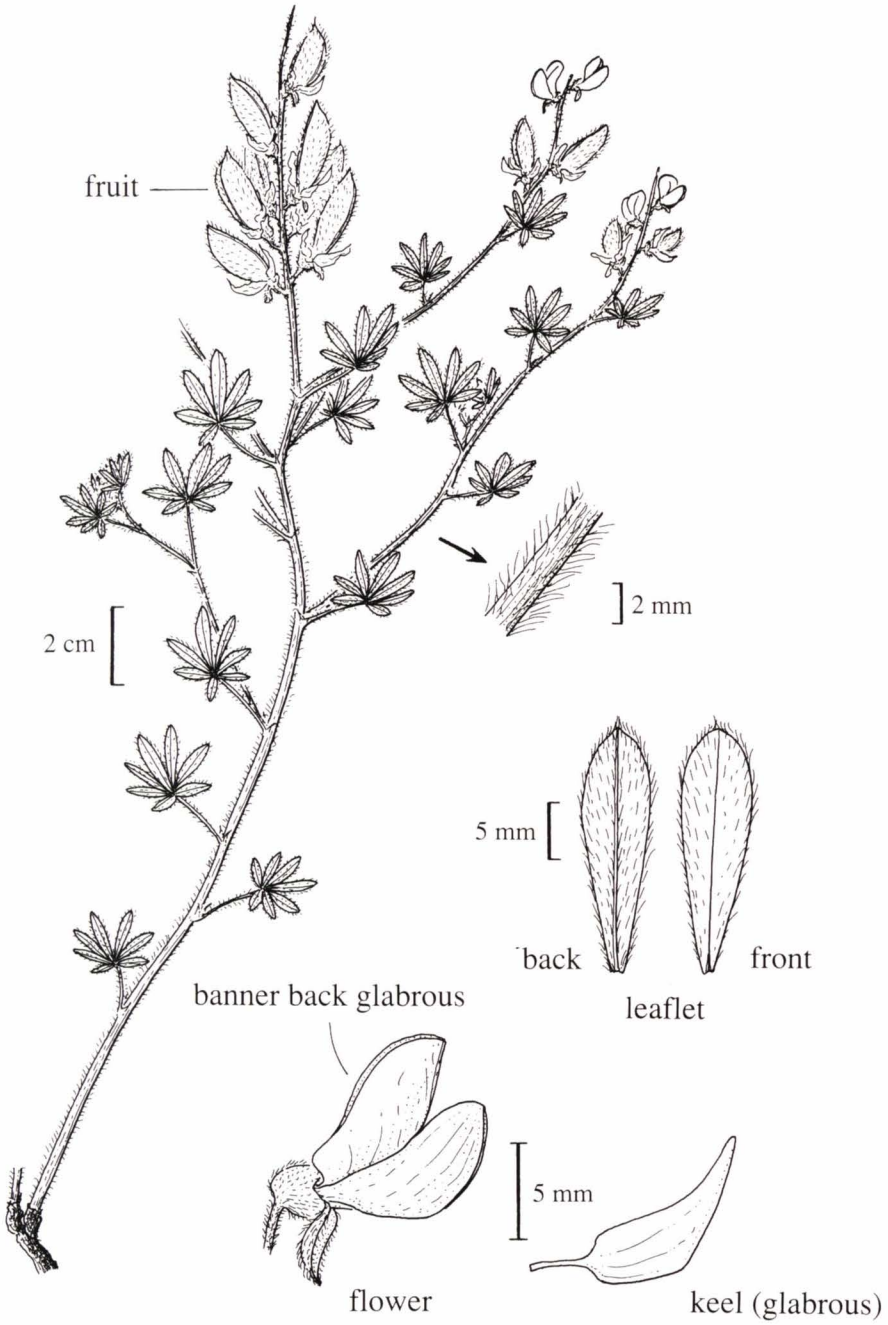
Land Ownership
U.S. Forest Service.

Distribution
Found in the inner north coast range of northern California in Lake, Mendocino and Trinity counties at elevations between 4,000-7,500 feet. Endemic to the Mendocino National Forest.

Known Localities

Covelo Ranger District	Solomon Peak and Anthony Peak
Upper Lake Ranger District	Hull Mountain and Pinnacle Rock area (historic)

For Additional Information
Jepson Manual p. 627



***Lupinus antoninus* Eastw.**

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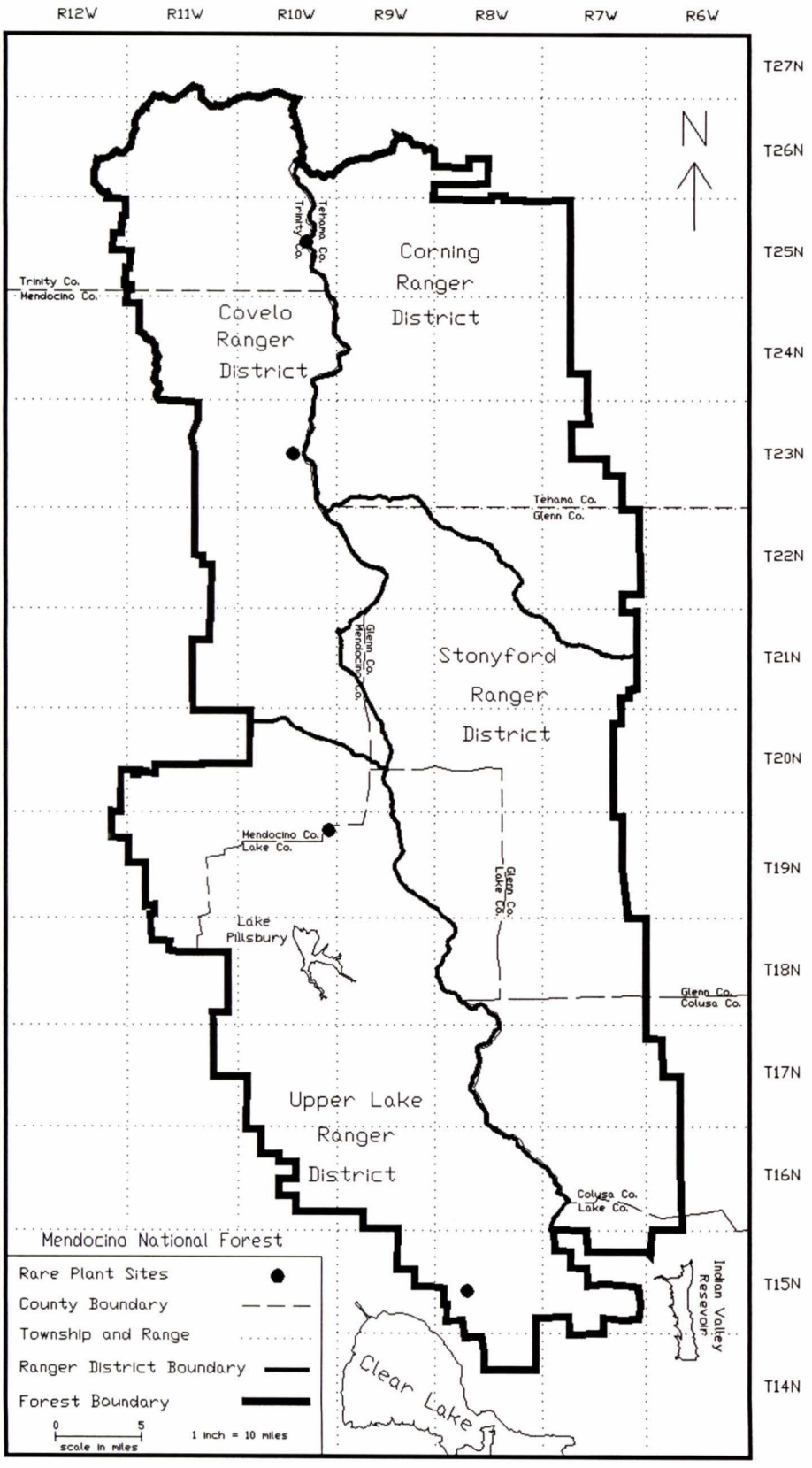
(Above) *Lupinus antoninus*- Photograph of plant in habitat.

(Left) *Lupinus antoninus*- Close-up photograph of flowering stem.

Locations of Lupinus antoninus



Madia stebbinsii Nelson & Nelson — Stebbins' madia

Family Asteraceae

CNPS list: 1B State/Fed. status: none/C3c

Description
Madia stebbinsii is a slender erect annual with stems 15-24 cm tall, branching from near base and again distally, sparsely covered with white coarse hairs, the upper stems minutely **black-stipitate glandular**; leaves linear, 1.5-2.2 cm long, 0.7-1.5 mm wide, coarse-haired, marginally rolled under, **mostly crowded at base of stems and at each branching point above**; flower heads cymose, terminating the branches; involucre ovoid, 4.5-5.5 mm high; **phyllaries linear, acuminate, purple-tipped, pilose, black-stipitate-glandular**; ray-flowers yellow, 4-6, fertile; disk-flowers 8-20, those of the outer row fertile, the **others sterile; anthers yellow**; ray-achenes 2-3.5 mm long, club-like; disk-achenes 2-4 mm long, slightly club-like, strongly dilated at base; ray-pappus 0.5-1.0 mm long, slightly plumose; **paleae of disk-pappus 8-10, 1.2-3.5 mm long, plumose.**

Similar Species
Madia hallii has disk pappus scales that are 0.2-0.5 mm long while *M. stebbinsii* has disk pappus scales that are 1.2-3.7 mm long. It differs from *M. nutans* which has fertile disk-flowers, inflorescence heads nodding in bud and fruit and non-plumose pappus scales, while *M. stebbinsii* conversely has erect inflorescence heads, sterile disk-flowers, and plumose pappus scales. Both of these two somewhat similar species occur principally in the southern part of the inner north coast ranges. All other species of *Madia* that grow in the general geographic area of *Madia stebbinsii* lack a pappus of either scales or plumose awns.

Survey Time
Flowering May to June.

Habitat
Madia stebbinsii is endemic to serpentine soils on south facing slopes. There is usually a sparse amount of associated vegetation including wild onion (*Allium hoffmanii*), viscid manzanita (*Arctostaphylos viscida*), Indian's dream (*Aspidota densa*), buckbrush (*Ceanothus cuneatus*), squirreltail (*Elymus elymoides*), sandwort (*Minuartia douglasii*), phacelia (*Phacelia corymbosa*), Jeffrey pine (*Pinus jeffreyi*), foothill pine (*P. sabiniana*), leather oak (*Quercus durata*), ragwort (*Senecio greenei*) and jewelflower (*Streptanthus* spp.).

Threats
Fireline construction and logging activity including road maintenance and development.

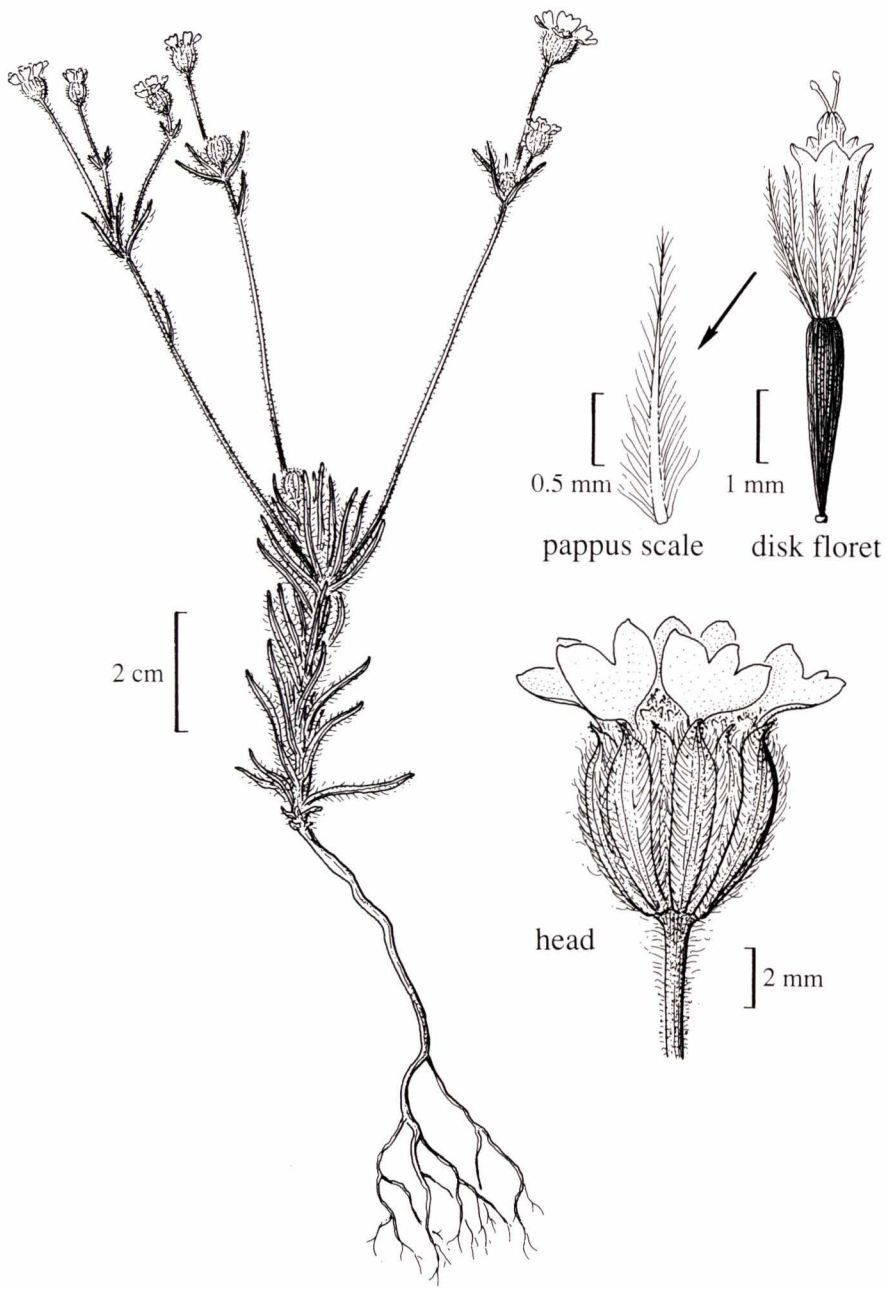
Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
Found in the northern region of the inner north coast range of northern California in Tehama and Trinity counties at elevations between 2,200-4,600 feet. There are now 13 known locations as determined by McCarten (1993) in the spring of 1992. These occurrences are mainly within the boundaries of the Shasta-Trinity National Forest and the Mendocino National Forest.

Known Localities
Corning Ranger District Road to Round Mountain

There are 2 populations just east of the Forest in the Beehive Flat area.

For Additional Information
Jepson Manual p. 313 and p. 317, McCarten 1993b, McCarten and Rogers 1991.



***Madia stebbinsii* T.W. Nelson & J. P. Nelson**

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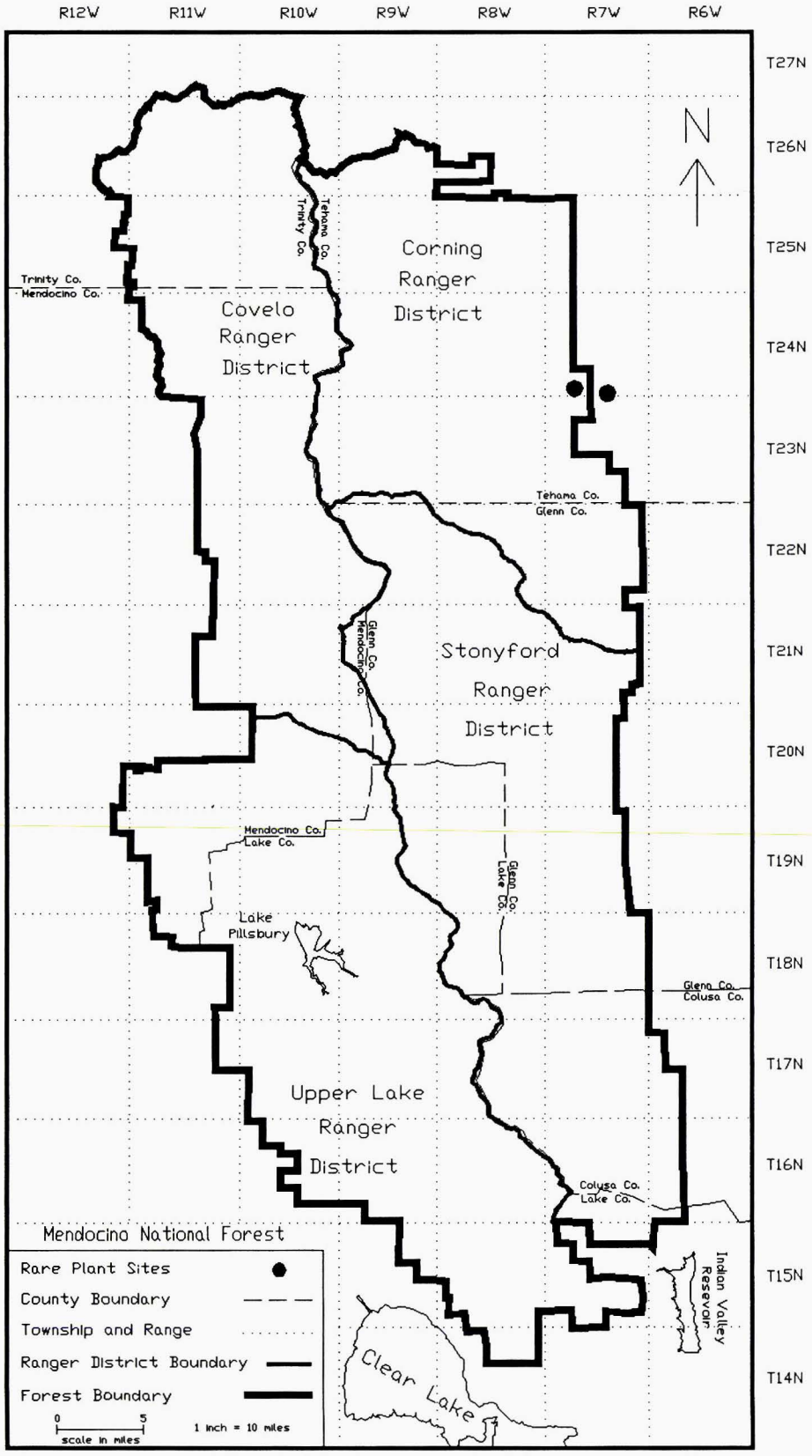
Madia stebbinsii- Photograph of plants in habitat.

Madia stebbinsii- Photograph of flowering plant.

Locations of Madia stebbinsii



Raillardiopsis scabrida Baldwin — scabrid raillardella
(Raillardella scabrida Eastw.)

Family Asteraceae

CNPS list: 4 State/Fed. status: none/C3c

Description
Raillardiopsis scabrida is a perennial herb with several stems coming from the branched root-crown, 10-40 cm long, often branched above and with several heads; leaves well distributed, many, mostly alternate, linear, sessile, obtuse, ca. 1-3 cm long, coarse-haired and stalked-glandular, the lowest sometimes scalelike, opposite, sheathing; heads pedunculate, discoid or with 2-3 broad rays 3-5 mm long; involucre 9-12 mm high; phyllaries ca. 8-10, stalked-glandular; rays without pappus, the akenes glabrous or somewhat hairy; pappus of disk-flowers of ca. 15 or more plumose parts.

Similar Species
No other *Raillardiopsis* species occur within the range of *R. scabrida*. One similar species found in the area is *Erigeron petrophilus*. The *Erigeron* differs from the subject plant in that its stems are leafy up to the flowering heads, overall height is about one half that of *R. scabrida*, the plant is not glandular or noticeably odoriferous, it possesses no ray flowers, and the pappus is somewhat browniwsh and not plumose.

Survey Time
Flowering July to August.

Habitat
Found on rock outcrops and scree slopes of mountain peaks in an open sub-alpine type of vegetation. It is most commonly on the tops and leeward slopes of hogback ridges within 25 meters of the ridgetop. Occasionally found in the protected ravines and drainages of the slopes. Associated species include wild onion (*Allium falcifolium*), rabbit brush (*Chrysothamnus nauseosus* ssp. *albicaulis*), squirreltail (*Elymus elymoides*), sulfur flower (*Eriognoum umbellatum* var. *furcosum*), mountain golden bush (*Haplopappus greenei*), oceanspray (*Holodiscus discolor*), lomatium (*Lomatium macrocarpum*), sandwort (*Minuartia nuttallii* ssp. *gregaria*), and Snow Mountain beardtongue (*Penstemon purpusii*).

Threats
Road maintenance and development.

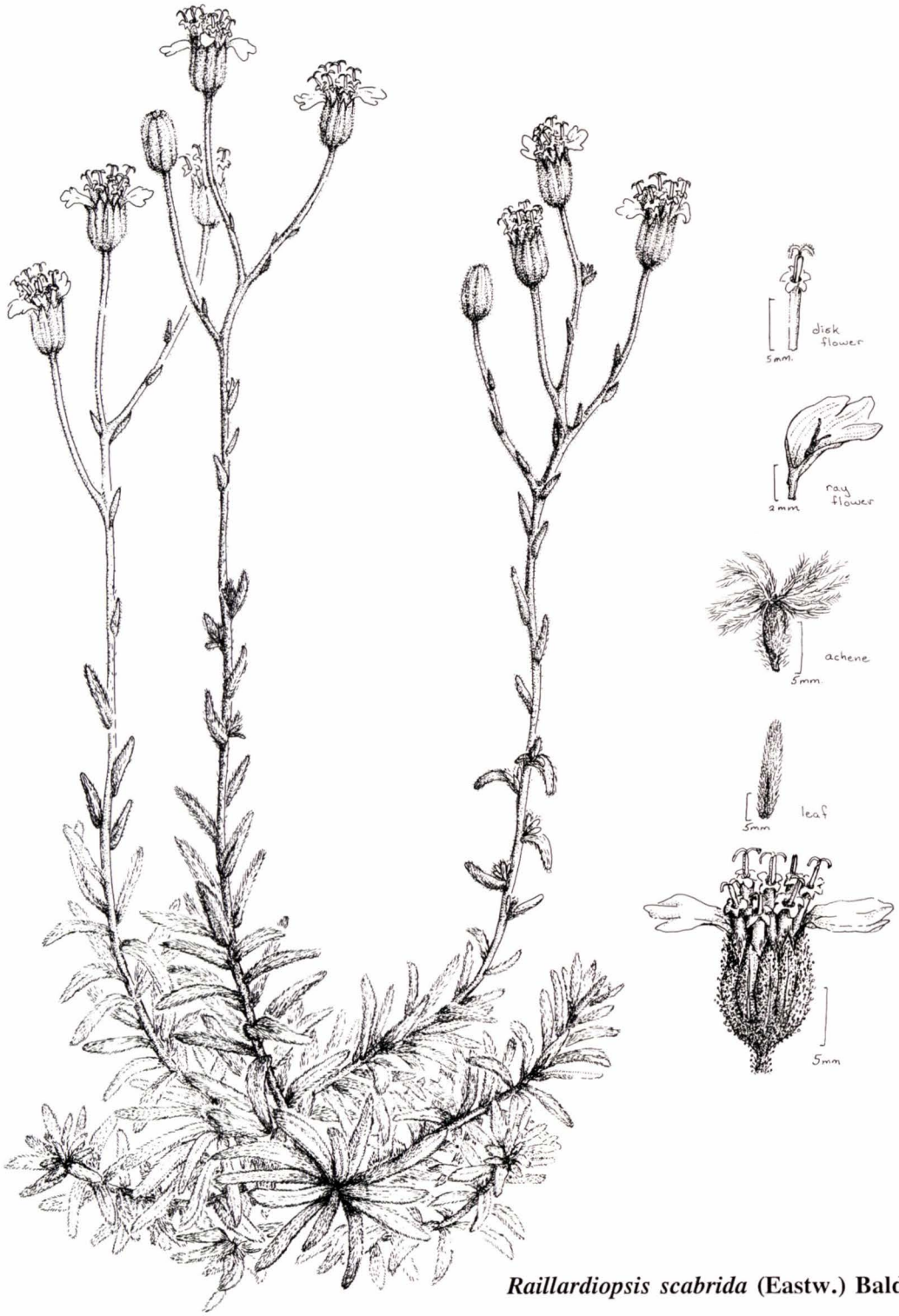
Land Ownership
U.S. Forest Service.

Distribution
This species is found at elevations above 5,500 feet in the inner north coast ranges of Colusa, Lake, Mendocino, Shasta, Tehama and Trinity counties. With the exception of one population found in the Six Rivers National Forest, all known occurrences are within the boundaries of the Mendocino National Forest.

Known Localities

Covelo Ranger District	Anthony Peak, Castle Peak, Hammerhorn Mountain, Leech Lake Mountain and Solomon Peak
Corning Ranger District	South Yolla Bolly Mountains and Uhl Peak
Stonyford Ranger District	Signal Peak and Snow Mountain
Upper Lake Ranger District	Hull Mountain and Impassable Rock

For Additional Information
MNF Status Report - 1980, Jepson Manual p. 332 and p. 339



***Raillardiopsis scabrida* (Eastw.) Baldwin**

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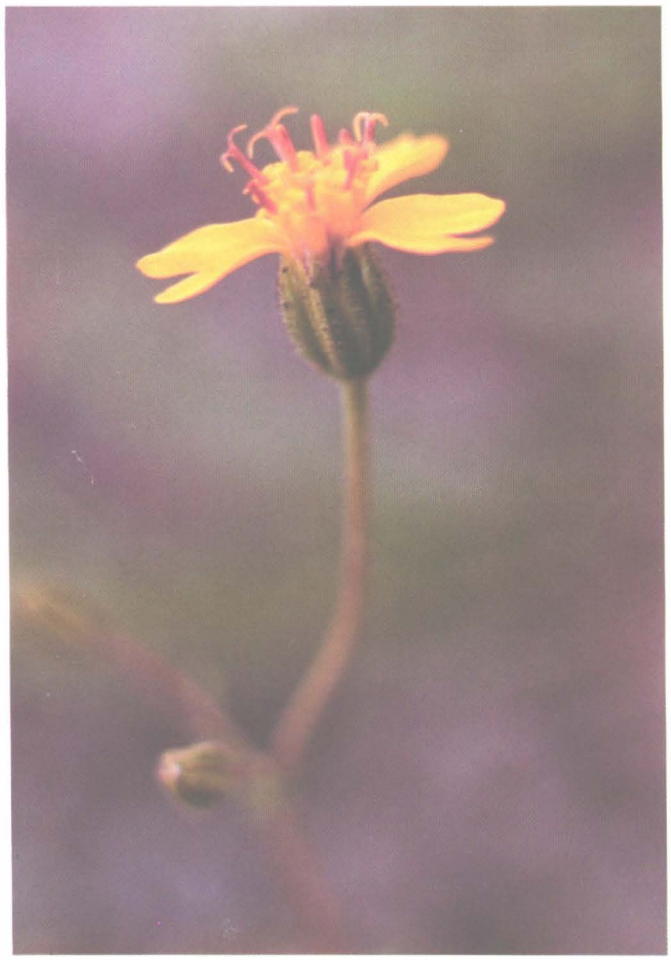
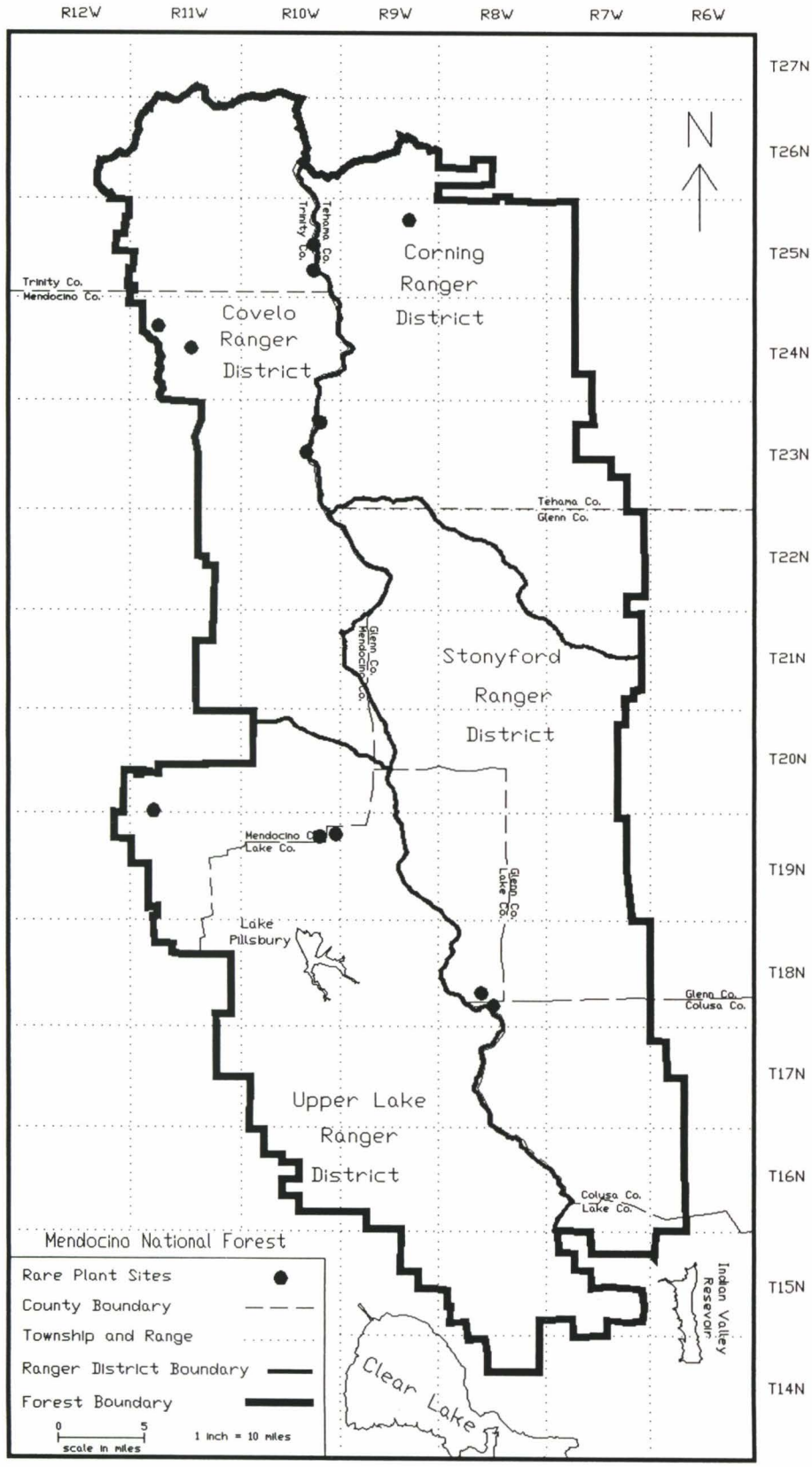
(Above) *Raillardopsis scabrida*- Photograph of plant and habitat.



(Left) *Raillardopsis scabrida*- Close-up photograph of flowering head.

Locations of Raillardiopsis scabrida



Silene campanulata Wats. ssp. *campanulata* — Red Mountain catchfly

Family Caryophyllaceae

CNPS list: 1B State/Fed. status: endangered/C1

Description
Silene campanulata ssp. *campanulata* is a perennial herb with a large woody taproot, many-branched crown and numerous erect slender stems 5-15 cm tall, scabrous-hairy, glandular at least in inflorescence; **leaves linear to lanceolate, 2-6 cm long**, 2-13 mm wide, the cauline 2-5 pairs; pedicels 5-10 mm long; calyx bell-shaped, 10-nerved, 6-8 mm long at anthesis, almost twice that in fruit, the lobes triangular-ovate, ciliate; **petals cream to greenish or pinkish, the claws 10-13 mm long, the blade 4-7 mm long, cleft into 2 or more lobes**; appendages usually 2, 1.5-2 mm long, erose or divided; stamens exserted; ovary stalk 1-2 mm long, hairy; seeds brown, ca. 2.2 mm long, with prominent warty papillae.

Similar Species
Silene campanulata ssp. *glandulusa*, which is known to occur in the Mendocino National Forest, has wider leaves (10-30 mm) that are lanceolate to round in shape.

Survey Time
Flowering May to June.

Habitat
Found in the lower montane coniferous forest and montane chaparral on rocky, dry serpentine soil. The soil is rich in nickel, shallow and strikingly red. Associated species include McDonald's rock cress (*Arabis macdonaldiana*), manzanita (*Arctostaphylos* spp.), Siskiyou ceanothus (*Ceanothus pumilis*), Sargent cypress (*Cupressus sargentii*), Englemann's lomatium (*Lomatium englemannii*), knobcone pine (*Pinus attenuata*), ponderosa pine (*P. ponderosa*) and Red Mountain stonecrop (*Sedum laxum* ssp. *eastwoodiae*).

Threats
Mining activity and road construction and maintenance.

Land Ownership
U.S. Bureau of Land Management and private.

Distribution
Found at elevations between 3,000-4,000 feet in the Red Mountain and Little Red Mountain areas of Mendocino County.

Known Localities
There are seven known occurrences recorded by the Natural Diversity Data Base. This is the rarest of several endemic plants that are primarily restricted to the serpentine soils of Red Mountain, west of the Mendocino National Forest.

For Additional Information
CDFG Status Report - 1988
Jepson Manual p. 491 and p. 495

This species does not have an illustration, photograph or map in this handbook.

Streptanthus morrisonii ssp. kruckebergii F.W. Hoffman Morrison's jewelflower

Family Brassicaceae

CNPS list: 1B State/Fed. status: none/C2

Description
Streptanthus morrisoniii ssp. *kruckebergii* is a glabrous, waxy biennial, 10 cm tall; leaves in a **dense rosette**, ovate, **stem leaves ear-like and clasping** the stem, up to 5 cm long, ca. 2.5 cm wide, entire to coarsely serrate; flowers 0.8 cm long, **petals salmon to yellow with brown veins** and 1 cm long; calyx greenish-yellow, glabrous or with scattered hairs; siliques erect or divergent, twisted, 2-7 cm long.

Similar Species
Streptanthus morrisonii is most closely related to *S. brachiatus*, with which it has often been confused. A study by LaPre' (1989), for the Bureau of Land Management, Ukiah district, proposes to change some of the taxonomy of these two species. *Streptanthus morrisonii* has salmon to yellow flowers, while *S. brachiatus* has white flowers. It still remains unclear which subspecies of *S. morrisonii* occurs in the Frenzel Creek Research Natural Area. The significance of the exact subspecies at this time is related to the rarity status which is as a C1 federal candidate for listing if it is *S. morrisonii* ssp. *elatus* and a C2 federal candidate for listing if it is *S. morrisonii* ssp. *kruckebergii*.

Survey Time
Flowering May through September.

Habitat
Streptanthus morrisonii occurs on moderate to steep rocky serpentine barrens. These barrens are generally devoid of vegetation except for *Streptanthus* and sometimes *Eriogonum nervulosum*. The very rocky soils are highly erodible and are extremely nutrient poor. It is likely that the steep eroding slopes create a very unstable condition so that few perennial plant species can become established. Both *Streptanthus morrisonii* and *S. brachiatus* occupy similar types of habitats on the serpentine barrens. For the most part, plants occur on steep ctions, but can also occur next to large boulders on rocky terraces. The soil and other ecological data can not at this time adequately differentiate the habitats of the two *Streptanthus* species.

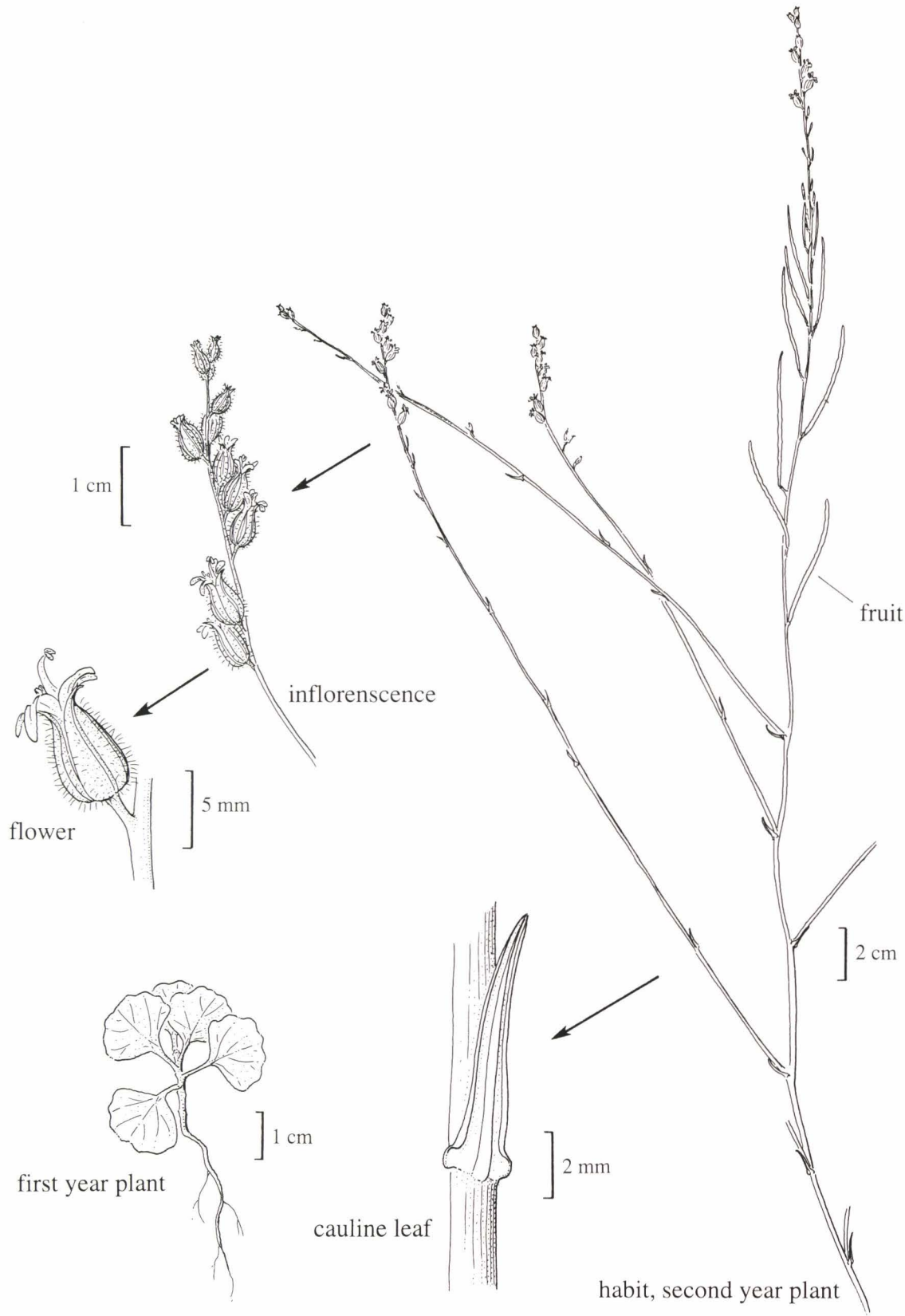
Threats
Geothermal development and mining. Both these activities would physically disturb the highly erodible serpentine barrens. Any activity that would cause development or unnecessary trampling by humans would negatively impact the populations directly.

Land Ownership
U.S. Forest Service, U.S. Bureau of Land Management and private.

Distribution
Populations of *Streptanthus morrisonii* ssp. *kruckebergii* occur in Colusa, Lake, Napa, and Sonoma counties.

Known Localities
Stonyford Ranger District Frenzel Creek Research Natural Area

For Additional Information
Jepson Manual p. 443 and p. 445
Dolan and LaPre 1987
McCarten 1988c
McCarten and Rogers 1991



***Streptanthus morrisonii* F. W. Hofm. var. *kruckebergii* R. Dolan & L. LaPre**

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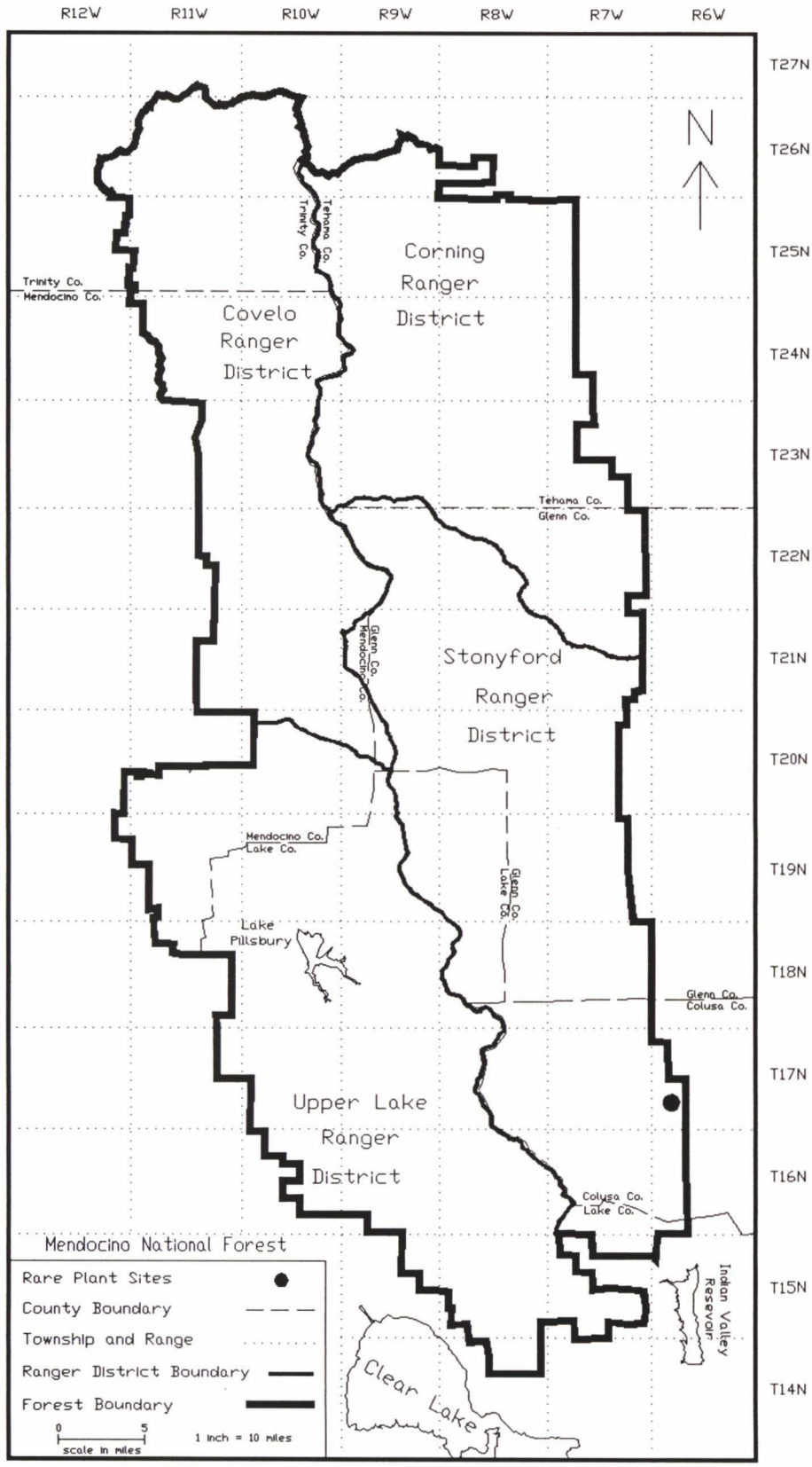
(Above) *Streptanthus morrisonii* ssp. *kruckebergii*- Photograph of basal leaves of plant.

(Left) *Streptanthus morrisonii* ssp. *kruckebergii*- Photograph of flowering stem.

Location of Streptanthus morrisonii